The Consideration and Regulation of Climate Change Effects under the Resource Management Act 1991

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A dissertation submitted in partial fulfilment of the degree of Bachelor of Laws (Honours) at the University of Otago, Dunedin

October 2012

Acknowledgements

I would like to thank –

Ceri Warnock, for your enthusiasm, encouragement, helpful direction and willingness to supervise me at very late notice;

Nicola Wheen, for your valuable comments and for alerting me to instructive cases;

My parents, for supporting me and my endeavours wholeheartedly;

Lucie Greenwood, for providing wonderful company and delicious snacks during our many hours at the law library;

Andrew Jacombs, for sharing with me your expertise in typographic beauty;

My friends and allies in Generation Zero, for your commitment to taking on the biggest challenge of our generation with optimism, energy, creativity and cheekiness.

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INTRODUCTION

This dissertation focuses on the consideration of climate change effects by consent authorities when assessing land use resource consent applications under the Resource Management Act 1991 ("RMA"). Considering climate change effects at the time of application for an activity is essential for two reasons. First, if the climate change effects of an activity are considered, the consent authority may refuse consent to an applicant because of these negative effects. Preventing a greenhouse gas emitting activity from proceeding is the most effective way to avoid the adverse climate change effects of the activity. Second, in the case of a lot of coal mined in New Zealand, the RMA will be the only regulation under which those effects are considered. This is because a lot of New Zealand coal is exported to countries who do not have climate change mitigation policies in place, and the emissions are not considered under any other New Zealand climate change law. If the future greenhouse gas emissions of an activity are not considered under the RMA, they may never be considered or accounted for.

Currently, consent authorities are not authorised to consider climate change effects when assessing land use resource consent applications, pursuant to the High Court decision in *Royal Forest and Bird Protection Society of New Zealand Inc v Buller Coal Ltd*.[1] This is despite there being no prohibition on doing so in the RMA. While the RMA prohibits consideration of the effects of greenhouse gas emissions on climate change in some specific circumstances, there is no such express prohibition when considering applications for land use consents. Contrary to what the High Court has said, this dissertation will argue that it is consistent with the purpose and scheme of the RMA, New Zealand's wider climate change framework and New Zealand's international obligations to consider future climate change effects under planning legislation.

Chapter one of this dissertation provides context to the issue of climate change, presenting scientific facts about climate change, and New Zealand's legal obligations under international agreements, the United Nations Framework Convention on Climate Change, and the Kyoto Protocol to the Convention. Chapter two outlines the legal framework that has been established in New Zealand in order to fulfil these obligations. It also looks at the scope of the RMA in regulating climate change effects, and key cases which define this scope.

Chapter three focuses on the consideration of climate change effects under section 104(1)(a) of the RMA in the context of applications for land use consents. It critiques Justice Whata's

[1] *Royal Forest and Bird Protection Society of New Zealand Inc v Buller Coal Ltd* [2012] NZHC 2156.

decision in *Royal Forest and Bird Protection Society of New Zealand Inc v Buller Coal Ltd* and provides a case for why climate change effects should be considered by consent authorities when assessing applications for land use consents. Chapter four goes on to discuss the limitations of only regulating climate change effects through section 104(1)(a), and looks at how conditions and national environmental standards can further regulate climate change effects through the RMA.

This dissertation concludes that it is legitimate, and in fact necessary, to consider the climate change effects of an activity when assessing a land use resource consent application under the RMA. While the 2004 Amendment Act excludes climate change considerations in certain circumstances under the RMA, the consideration of such effects when assessing land use, subdivision and water permits is unaffected. Refusing to consider climate change effects when they are not expressly prohibited from consideration is at odds with the fundamental purpose of the Resource Management Act, and undermines New Zealand's international commitment to "taking the lead" in reducing greenhouse gas emissions and adopting national climate change mitigation policies.[2]

The author believes that climate change is one of the the most important and urgent issues facing the world, especially young people, and that it is the responsibility of the government to take strong action to reduce New Zealand's greenhouse gas emissions. This includes taking responsibility for greenhouse gas emissions from coal mined in New Zealand and exported overseas. This dissertation should be read with the above biases and assumptions in mind.

[2] United Nations Framework Convention on Climate Change (opened for signature 4 June 1992, entered into force on 21 March 1994), Art 4(2)(a).

CHAPTER ONE

The Global Response to Climate Change

This chapter will discuss the scientific facts of climate change, and the strong imperative these facts provide for reducing greenhouse gas ("GHG") emissions. It will explain the relevance of coal production and export to climate change, and the importance of reducing fossil fuel consumption and production. It will go on to set out the key details of the international agreements which have been established to facilitate global action on climate change, and New Zealand's legal obligations in respect of those agreements.

I. BACKGROUND: THE SCIENTIFIC BASIS FOR CLIMATE CHANGE

Climate change is the most significant environmental issue of the twenty-first century, and the most threatening to the interests of present and future generations. It is a problem on a global scale, leading to impacts which are not confined to the "environment" in isolation, but also affect the economy, health, food supply, water, and even the very existence of some island states.[3] Climate change is already affecting ecosystems, freshwater supplies, and human health around the world.[4] Although a certain degree of climate change is now inevitable and has already taken place,[5] much worse impacts can be avoided by substantially reducing the emissions of heat-trapping GHGs into the atmosphere.

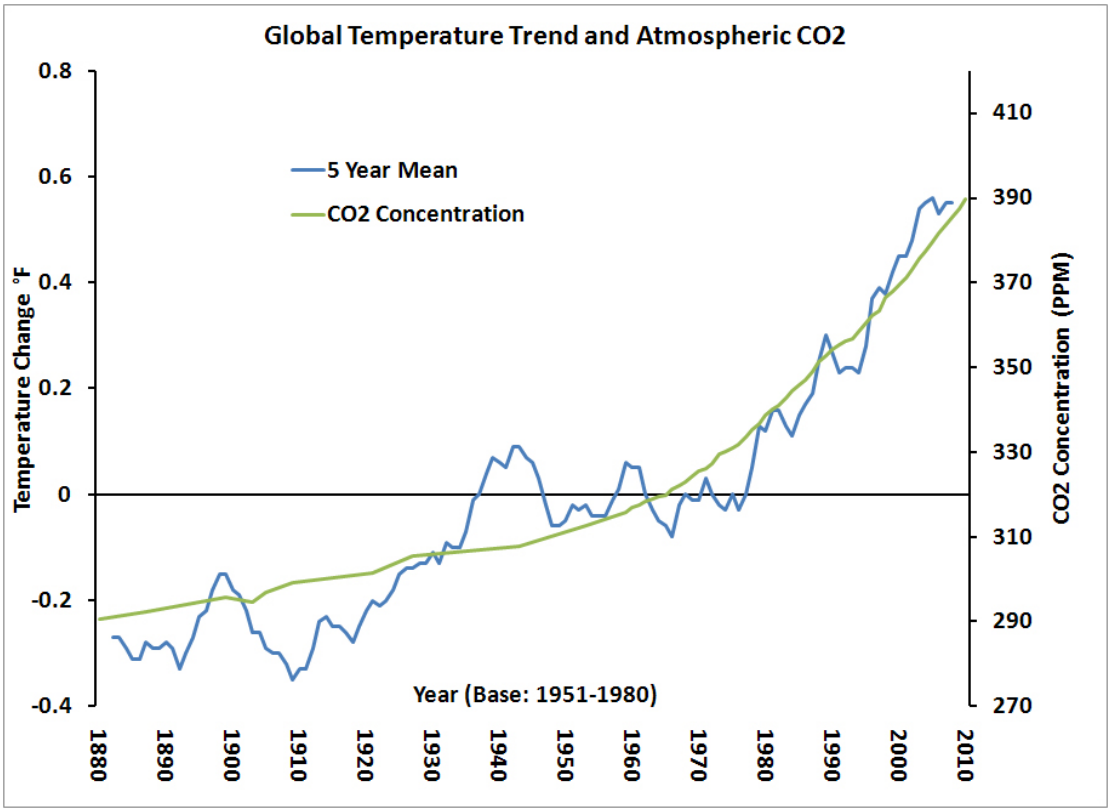
Climate change is caused by the "greenhouse effect" which occurs when heat from the sun, instead of being reflected back into space, is trapped inside GHGs (such as carbon dioxide and methane), warming the atmosphere. The greenhouse effect is a natural phenomenon, and vital to maintaining a life-supporting temperature on earth, however, it is being intensified by human activities. The ever-increasing amount of GHGs in the atmosphere, the result of human activities such as burning fossils fuels, deforestation and livestock agriculture, is creating an energy imbalance, where more energy from the sun is being absorbed than is being emitted

[3] Pacific Islands such as Kiribati are extremely vulnerable to the effects of climate change, which threatens their livelihood, security and the future of their islands' existence above water. See Office of the President, Government of Kiribati "Climate Change in Kiribati" (2010) <www.climate.gov.ki/Climate_change_effects_in_Kiribati.html>.

[4] IPCC "Climate Change 2007: Synthesis Report" (2007) <http://www.ipcc.ch> at 33.

[5] "Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level." IPCC "Climate Change 2007 – The Physical Science Basis" (2007) <www.ipcc.ch>, p 30.

back into space.[6] In the past there has been natural variability in climate and levels of GHGs, however, natural variability alone cannot answer for the current levels of GHGs.[7] The concentration of GHGs in the atmosphere is now higher than it has been in 650,000 years, and is rapidly rising.[8]



As the concentration of CO^2 in the atmosphere has increased, so has the average surface temperature of the Earth. The relationship between atmospheric CO^2 concentration and surface temperature is shown here for the past 130 years. (Image: C2ES)[9]

[6] NASA "Scientists Confirm Earth's Energy is Out of Balance" (2005) <www.nasa.gov/vision/earth/environment/earth_energy.html>.

[7] IPCC "Climate Change 2007: Synthesis Report", above n 4 at 41.

[8] Ministry for the Environment "Key facts about climate change" (2010) <http://www.mfe.govt.nz/issues/climate/about/key-facts.html>.

[9] Center for Energy and Climate Solutions "Atmospheric Carbon Dioxide and Global Surface Temperature Trends" <http://www.c2es.org/facts-figures/trends/co2-temp>.

The Intergovernmental Panel on Climate Change[10] found in their Fourth Assessment Report that "most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations."[11] They also state that "discernible human influences extend beyond average temperature to other aspects of climate."[12] Dr. James Hansen explains the connection of human influence to climate change in more certain terms:

> Humanity is now the dominant force driving changes of Earth's atmospheric composition and thus future climate on the planet. Carbon dioxide emitted in burning of fossil fuels is, according to best available science, the main cause of global warming in the past century.[13]

II. CLIMATE CHANGE IS A ' SUPER-WICKED' PROBLEM

Climate change is a difficult issue to deal with, or as some say, a "super-wicked" problem,[14] especially due to the fact that the effects of climate change are not geographically connected to its causes. GHG emissions all around the world contribute to a global change in the climate, as emissions are quickly dispersed throughout the atmosphere. This means that there is a disconnect between those creating the problem, and those experiencing the effects of the problem. For example, Pacific Island states have contributed negligibly to the global increase in

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[10] "The Intergovernmental Panel on Climate Change (IPCC) was set up jointly by the World Meteorological Organization and the United Nations Environment Programme to provide an authoritative international statement of scientific understanding of climate change. The IPCC's periodic assessments of the causes, impacts and possible response strategies to climate change are the most comprehensive and up-to-date reports available on the subject, and form the standard reference for all concerned with climate change in academia, government and industry worldwide." IPCC "Climate Change 2007: Synthesis Report" (2007) <http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_cover.pdf>.

[11] IPCC "Climate Change 2007: Synthesis Report Summary for Policy Makers" (2007) <http://www.ipcc.ch> at 5.

[12] Ibid at 6: The IPCC report finds that human influences have: "*very likely* contributed to sea level rise during the latter half of the 20th century; *likely* contributed to changes in wind patterns, affecting extra-tropical storm tracks and temperature patterns; *likely* increased temperatures of extreme hot nights, cold nights and cold days; and *more likely than not* increased risk of heat waves, area affected by drought since the 1970s and frequency of heavy precipitation events."

[13] James Hansen et. al "The Case for Young People and Nature: A Path to a Healthy, Natural, Prosperous Future" (2011) <www.columbia.edu/~jeh1/mailings 2011/20110505_CaseForYoungPeople.pdf>, at 1.

[14] Jonathan Boston "A New Global Climate Change Treaty – Can Humanity Deliver? Our Challenge after Durban for 2015" (paper presented at Otago University, Dunedin, 14 March 2012), at 4: "[Climate change] can be classified as a 'super-wicked' policy problem. A super-wicked problem has the following characteristics: the policy is complex and controversial, with competing problem definitions; all the available solutions are problematic; delay is costly; those most responsible for the problem have the least incentive to help solve it; and the central control or enforcement mechanisms are weak."

GHG emissions, yet are on the frontline of climate change effects. There is also an intergenerational aspect to this issue – those who are causing climate change may not be alive to experience the worst impacts, while future generations and the young people of today will bear the costs. These issues of intergenerational justice and justice within the international community are moral imperatives for action, especially on the part of those nations who are responsible for large scale GHG emissions.

III. THE CURRENT SITUATION AND ANTICIPATED EFFECTS

The current reality is that even if we immediately make drastic reductions in global GHG emissions, it is already too late to fully reverse the effects of climate change, which are already becoming apparent. Sea-level rise caused by melting land-based ice and the thermal expansion of oceans is already severely affecting island states such as Kiribati,[15] and the average global temperature is steadily rising.[16] Extreme temperature events such as the 2003 heat wave in Europe that killed more than 50,000 people, and the 2011 drought in Texas that caused more than $5 billion in damage,[17] are becoming much more frequent and more intense worldwide.[18]

In 2009, the international community "recognised", in the non-binding Copenhagen Accord, "the scientific view that the increase in global temperature should be below 2 degrees Celsius" in order to avoid dangerous climate change.[19] The Earth's climate has warmed by nearly 0.8 degrees Celsius over the past century, which already has caused more damage than many scientists expected.[20] Given those impacts, the target of two degree falls short of what many scientists say is required to avoid disastrous effects.[21] Prominent climate scientist James Hansen

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[15] Office of the President, Government of Kiribati "Climate Change in Kiribati" (2010) <www.climate.gov.ki/Climate_change_effects_in_Kiribati.html>.

[16] Susan Solomon et al, eds, *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (New York: Cambridge University Press, 2007) at 36.

[17] Aaron Smith "Wildfires and drought cost Texas millions" *CNN Money* (online ed, New York, September 8, 2011).

[18] James Hansen, Makiko Sato and Reto Ruedy "Perception of climate change" (2012) 109(37) PNAS E2415.

[19] Copenhagen Accord, FCCC/CP/2009/11/Add.1 (2009), para. 1.

[20] Above n 16 at 36. Examples of the impacts so far include: A third of summer sea ice in the Arctic is gone, the oceans are 30 percent more acidic, and the atmosphere over the oceans is a shocking five percent wetter, increasing the probability of devastating floods.

[21] James Hansen (NASA), Kerry Emanuel (MIT), Thomas Lovejoy (World Bank). See: Bill McKibben "Global Warming's Terrifying New Math", R*olling Stone Magazine,* July 19 2012 <www.rollingstone.com>.

believes that "the target that has been talked about in international negotiations for two degrees of warming is actually a prescription for long-term disaster."[22]

The target cap of a 2 degrees Celsius increase in temperature is predicted to lead to, among other effects:[23]

- 15 – 40% of species facing extinction and a high risk of extinction of Arctic species, including polar bears;
- Potential for the Greenland ice sheet to begin melting irreversibly, accelerating sea level rise and committing the world to an eventual 7m sea level rise;
- A potential 20-30% decrease in water availability in some vulnerable regions
- Sharp declines in crop yield in tropical regions;
- 40–60 million more people exposed to malaria in Africa;
- Up to 10 million more people affected by coastal flooding each year.

These anticipated effects exemplify the urgency of climate change, especially given that the global community has agreed that a temperature rise of up to 2° celsius is acceptable.

IV. FOSSIL FUELS ARE THE MAIN DRIVERS OF CLIMATE CHANGE

The recent increase in the concentration of carbon dioxide in the atmosphere is largely the result of the burning of fossil fuels since the industrial revolution.[24] In fact, the burning of coal, oil, and natural gas accounts for about 80 percent of anthropogenic CO^2 emissions.[25] Coal is a major source of GHGs, in 2009 producing 43% of global fuel-source CO^2 emissions.[26] It also has the highest carbon content of all fossil fuels, which means that it releases more CO^2 when combusted.[27] Current projections by the International Energy Agency (IEA), predict that four-fifths of the energy-related CO^2 emissions permissible by 2035 (if we are to limit temperature rise to 2°c) are already "locked-in" by the world's existing energy infrastructure.[28] This means

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[22] Ibid.

[23] Nicholas Stern *Stern Review: The Economics of Climate Change* (HM Treasury, 2006) at 57.

[24] Center for Climate and Energy Studies "Climate Change 101: Science and Impacts" (January 2011) <www.c2es.org/science-impacts/climate-change-101/science> at 3.

[25] Ibid. at 3.

[26] International Energy Agency "2011 Key World Energy Statistics" (2011) <www.iea.org> at 44.

[27] Kevin A Baumert, Tim Herzog, Jonathan Pershing. "Navigating the Numbers: Greenhouse Gas Data and International Climate Policy" (December, 2005) World Resources Institute <pdf.wri.org/navigating_numbers.pdf> at 26.

[28] International Energy Agency "2011 Key World Energy Outlook Executive Summary" (2011) <www.iea.org> at 2.

that out of the 2,795 gigatons of known coal and oil reserves of fossil fuel companies, it is only safe to burn 565 gigatons and have a "reasonable chance" of staying under the 2 degree warming threshold.[29] In order to keep the average global temperature increase at or below 2° Celsius, coal consumption must peak well before 2020, then decline.[30] The current trend shows that if the world continues with "business as usual" practices, there will eventually be a temperature increase of around six degrees.[31]

Despite the demonstrable need to reduce global fossil fuel use, New Zealand is continuing to consume, import and export coal, as well as investigate untapped fossil fuel reserves and develop new coal mines. Currently, mining companies including Solid Energy and Bathurst Resources, are pursuing developments around the South Island: lignite in Southland, and coal mines on Stockton Plateau, as well as in the conservation land of the Denniston Plateau.[32] These mines are mostly producing coal for export.[33] New Zealand coal is exported mainly to India and Japan, with smaller quantities going to Chile, South Africa, Brazil, China and the USA.[34] 2.1 million tonnes of bituminous coal, all from the West Coast, was exported in 2011.[35] 2.8 million tonnes of coal was consumed domestically during the same period.[36] New Zealand has estimated coal reserves of over 50 billions tonnes.[37]

V. INTERNATIONAL ACTION AND AGREEMENTS ON CLIMATE CHANGE

While humans have been increasing fossil fuel consumption since the industrial revolution, it was not clear that there was a correlation between GHG levels in the atmosphere and the alteration of the global climate system until 1896 when Swedish scientist Svente Arrhenius made a finding that doubling the carbon dioxide content of the air would gradually raise global temperatures by 5 to 6 degrees Celcius. It was not until the the late 1950s and 1960s, however,

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[29] Bill McKibben, above n 21.

[30] International Energy Agency, above n 28 at 5.

[31] Michel Rose "Global CO2 emissions hit record in 2011 led by China - IEA" *Reuters* (Paris, May 24, 2012). "The trend is perfectly in line with a temperature increase of 6 degrees Celsius (by 2100), which would have devastating consequences for the planet," Fatih Birol, IEA's chief economist told Reuters."

[32] The proposed coal mines on Stockton and Denniston Plateau were the subject of legal challenge in *Royal Forest and Bird Protection Society of New Zealand Inc v Buller Coal Ltd* [2012] NZHC 2156.

[33] *Royal Forest and Bird Protection Society of New Zealand Inc v Buller Coal Ltd* above n 1 at [6].

[34] Energy Information and Modelling Group *New Zealand Energy Data File (*prepared for the Ministry of Economic Development 2012) at 36.

[35] Ibid.

[36] Ibid, at 37.

[37] Ibid, at 33.

that the prospect of climate change became an international concern and was taken seriously by the scientific community.[38] Despite this knowledge and concern, the international community was slow to respond, and the issue of climate change first appeared in an international forum at the first World Climate Conference in 1979. Almost a decade later, in 1988, the Intergovernmental Panel on Climate Change ("IPCC") was set up to assess and investigate scientific information on the effects of climate change.[39] The UN General Assembly established the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change in 1990, mandated to negotiate this convention in time for the United Nations Conference on Environment and Development in Rio de Janeiro in June 1992. International commitment to confronting climate change and reducing emissions was affirmed at this conference, when the United Nations Framework Convention on Climate Change (UNFCCC) opened for signature.[40] The UNFCCC was signed by 154 states and the European Community. New Zealand signed the UNFCCC in June 1992 and ratified it on 16 September 1993. The UNFCCC came into force on 21 March 1994.

The UNFCCC creates a broad framework for international cooperation to address climate change and achieve GHG emissions reductions. The objective of the UNFCCC is to:

> achieve … stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a timeframe sufficient to allow ecosystems to adapt naturally to climate change … and to enable economic development to proceed in a sustainable manner.[41]

The UNFCCC provided an impetus for international cooperation on climate change mitigation. However, it became clear quite quickly that the broad, voluntary commitments did not provide enough of an impetus for serious GHG emissions reductions.[42] Thus, the Kyoto Protocol (KP) to the UNFCCC was developed to provide legally binding emissions reduction

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[38] For an interesting account of the history of human understanding of climate change, see Stephen Harding, "The long road to enlightenment" *The Guardian* (United Kingdom, 8 January 2007).

[39] The IPCC was set up by the World Meteorological Organisation and the United Nations Environment Programme, see above n 10.

[40] United Nations Framework Convention on Climate Change (opened for signature 4 June 1992, entered into force 21 March 1994).

[41] UNFCCC, art 2.

[42] New Zealand Climate Change Programme *Kyoto Protocol: Ensuring our Future* (Ministry for the Environment, 2001) at 9: "In 1995, at the First Conference of the Parties to the FCCC (COP1), the parties/signatories concluded that the voluntary reductions proposed by the FCCC might not be sufficient to successfully address greenhouse gas emissions, and that legally binding targets may be required."

targets for developed countries – to give some "teeth" to the UNFCCC.[43] The KP has been ratified by 191 countries, including New Zealand.[44]

One of the main features of the UNFCCC and the KP is the principle of "common but differentiated responsibilities" for developed and developing nations.[45] The principle rests on the rationale that it would be unfair to impose the same obligations on all countries, given that developing countries have less capacity to reduce emissions, and rely on GHG emitting technologies to further develop their economies. Further, industrialised nations are responsible for the majority of GHG emissions historically. "Developed nations" such as New Zealand are listed in Annex I of the UNFCCC, and are subject to more stringent obligations than non-Annex I parties.[46]

VI. EMISSIONS REDUCTION COMMITMENTS UNDER THE KYOTO PROTOCOL

The key section of the KP is article 3.1, which requires Annex I parties to:

> ... ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A[47] do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B ... with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.

Annex B of the KP sets legally binding "quantified emission limitations or reduction commitments" for Annex I Parties. The KP uses consumption-based rather than production-based emissions accounting; this means that reduction commitments are calculated based on domestic emissions, and do not include emissions from products (e.g fossil fuels) which are exported. Parties must meet the reduction targets themselves, or else take responsibility for their excess emissions by offsetting them through emissions reductions made elsewhere in the

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[43] Kyoto Protocol to the United Nations Framework Convention on Climate Change (opened for signature 16 March 1998, entered into force 16 February 2005).

[44] Of the "developed countries" listed in Annex B of the KP, only the United States has not ratified the Protocol. Canada withdrew from the KP on 12 December 2011, becoming the first nation to do so: "Canada pulls out of Kyoto Protocol" *The Guardian* (United Kingdom, 13 December 2011).

[45] See UNFCCC preamble; art 3; art 4; art 12. This principle is also reflected substantively in the division of parties into "Annex I" and "non-Annex I" groupings, with differential commitments regarding mitigation measures and reporting financing.

[46] The list of countries covered by Annex I of the UNFCCC is identical to Annex B of the Kyoto Protocol, with the exception of Belarus which is not included in Annex B.

[47] GHGs listed in Annex A are: carbon dioxide (C02), methane (CH4), nitrous oxide (N20), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF6).

world, via one of the "flexibility mechanisms" provided in the KP. These include international emissions trading, partaking in the clean development mechanism, or joint implementation schemes.[48]

Most Annex I Parties have committed to reducing their GHG emissions to a specified percentage below the base level of 1990 emissions over the commitment period 2008–2012.[49] New Zealand has committed to ensuring that New Zealand's emissions between 2008-2012 are no higher than New Zealand's 1990 level of emissions (or taking responsibility for any shortfall), a target less demanding than the average agreed for Annex I countries, which is a 5.2 per cent cut on 1990 levels. An agreement for emission reduction commitments that applies beyond 2012 has not been settled yet.

In addition to emissions reductions obligations, Annex I parties have also agreed to cooperate in promoting the development of "environmentally sound technologies" and to "take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to" such technology, in particular to developing countries.[50]

Non-Annex I countries do not have any binding emission reduction commitments, but are encouraged to reduce emissions and are subject to other responsibilities under the UNFCCC and the KP. A concerning issue which has arisen as a consequence of differentiated responsibilities for developed and developing nations is "carbon leakage". Carbon leakage occurs where the reduction of GHG emissions in one country results in increased emissions in another, usually with no reduction obligations.[51] Therefore, while coal use may be declining in Annex I states as emissions-reduction policies make it more expensive to consume, producers in those Annex I states are not reducing production, but are rather exporting the coal to be consumed elsewhere. In New Zealand, coal mine owners are liable to pay under the Emissions Trading Scheme for coal that stays in New Zealand, but are not required to pay for exported coal.[52] This means that there is an incentive for producers to export the coal in order to avoid

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[48] I will not be addressing the details of flexibility mechanisms as they are outside of the scope of this dissertation. However, for a detailed explanation, see chapter 6, Yamin and Depledge *The International Climate Change regime: A guide to Rules, Institutions and Procedures* (Cambridge University Press, Cambridge, 2004), at 136-196.

[49] Kyoto Protocol, Art. 3.1.

[50] Kyoto Protocol, Art. 10(c).

[51] The carbon leakage rate is defined as the ratio of total increased CO^2 emissions by the non-Annex B countries to total emissions abatement by the Annex B country: Sergey V. Paltsev "The Kyoto Agreement: Regional and Sectoral Contributions to the Carbon Leakage" (Discussion Papers in Economics Working Paper No. 00-5 , July 2000) <http://web.mit.edu/paltsev/www/pubs/wp00-5.pdf>.

[52] Climate Change (Stationary Energy and Industrial Processes) Regulations 2009, s 11.

being charged for the emissions. Coal from New Zealand is often exported to non-Annex I countries.[53] In this situation, because the developed countries are not accountable for emissions from exports, and neither are developing countries, there is no incentive to reduce fossil fuel exports.

VII. NEW ZEALAND'S COMMITMENTS UNDER THE KYOTO PROTOCOL

Although New Zealand only produces around 0.2 per cent of global CO^2-equivalent emissions, per capita emissions are relatively high compared with other Annex I countries, and it is a significant historic emitter of GHGs on a per capita basis.[54] Projections of New Zealand's net emissions over the KP commitment period indicate that New Zealand is likely to meet our commitments, and in fact, finish with a surplus of Kyoto Units.[55] However, this is not necessarily because New Zealand has reduced its emissions, but because the government can rely on forestry carbon sinks to restore the balance to 1990 level emissions, as carbon removal by sinks is included in calculating the net emissions of a country under the KP.[56]

Under the KP, New Zealand also committed to:

- Make "demonstrable progress" toward achieving commitments by 2005;
- Put in place a national system for estimating GHG emissions and carbon uptakes by sinks by the end of 2006;
- Establish a register to record and track changes to New Zealand's assigned amount of emission units under the KP;
- Engage in international co-operation in relation to policies and measures, technology transfer, scientific and technical research, and education training;
- Provide assistance through financial resources and funding to help developing countries to implement their existing commitments;[57]
- Comply with any future negotiated agreements to further reduce emissions.

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[53] *New Zealand Energy Data File* above n 34 at 36. "New Zealand coal is exported mainly to India and Japan, with smaller quantities going to Chile, South Africa, Brazil, China, USA and Australia."

[54] Jonathan Boston "The Nature of the Problem and the Implications for New Zealand" Alastair Cameron (ed) *Climate Change Law and Policy in New Zealand* (LexisNexis, Wellington, 2011) 87, at 100.

[55] Kyoto Units are technically called Assigned Amount Units and each represents an allowance to emit greenhouse gases comprising one metric tonne of CO^2 equivalents.

[56] Kyoto Protocol Art 3(3). See Ministry for the Environment "New Zealand's net position under the Kyoto Protocol" 16 August 2012 <http://www.mfe.govt.nz/issues/climate/greenhouse-gas-emissions/net-position>.

[57] Kyoto Protocol, Art 11; UNFCCC Art 4(3), Art 11.

VIII. SIGNIFICANT PROGRESS IS YET TO BE MADE

Professor Jonathan Boston has noted that "developing a comprehensive, fair and effective solution to the problem of human-induced climate change is one of the most formidable challenges currently facing the international community."[58] There is still debate about whether the UNFCCC and the KP have been effective in achieving any significant reduction in worldwide emissions, especially in light of the escalating emissions of developing countries. In 2009, gross GHG emissions had increased in most Annex I states, and only the European Union had achieved anything close to the required reductions, with a decrease of 9.3% from the 1990 emissions level during the period 1990-2007.[59] However, these increases pale in comparison to the huge growth in emissions from developing countries – China (120.5%), India (79.9%) and Brazil (54.7%).[60]

While New Zealand's GHG emissions are a very small proportion of global emissions, the government has taken on binding legal obligations to mitigate the effects of climate change. However, New Zealand mines are exporting large amounts of coal to non-Annex I countries, which undermines this commitment. New Zealand mining companies are encouraging more global fossil fuel consumption, contributing to increased global emissions and not being held accountable. As is evident from worldwide emissions statistics, it is in developing countries that a big concern lies, and it is to some of these countries that New Zealand is exporting coal. For this reason, it is important that the inevitable combustion of fossil fuels such as coal and the associated GHG emissions are considered from their point of origin in New Zealand, otherwise they may not be considered at all. This point will be considered in more depth in chapter three of this dissertation.

New Zealand has incorporated its international climate change obligations into domestic legislation largely through the Climate Change Response Act 2002, associated regulations, and to a certain extent the RMA. Chapter two will look at New Zealand's legal framework for fulfilling commitments under the UNFCCC, the KP and reducing net GHG emissions.

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[58] Jonathan Boston "The nature of the Problem and the Implications for New Zealand" Alastair Cameron (ed) *Climate Change Law and Policy in New Zealand* (LexisNexis, Wellington, 2011) 87, at 88.

[59] Between the period 1990–2007, emissions rose by 30% in Australia, 17% in the US and 8% in Japan. Ministry for the Environment "New Zealand's 2020 Emissions Target" (July 2009) <http://www.mfe.govt.nz/publications/climate/nz-2020-emissions-target/nz-2020-emissions-target.pdf>. More recent statistics on worldwide GHG emissions are difficult to find, however, it is expected that more updated statistics on states' progress in emissions reduction will be available at the end of the First Kyoto Commitment period, the end of 2012.

[60] Ministry for the Environment "New Zealand's 2020 Emissions Target" (July 2009) <http://www.mfe.govt.nz/publications/climate/nz-2020-emissions-target/nz-2020-emissions-target.pdf>

CHAPTER TWO

Climate Change Law in New Zealand

This chapter outlines New Zealand's legal response to climate change and the regulatory framework that has been developed to enable New Zealand to reduce GHG emissions. It discusses issues relating to the scope of the Resource Management Act 1991 ("RMA") in regulating climate change effects, and key cases which have come before the Courts in relation to these issues. In addition, it identifies weaknesses in the framework, namely, that climate change effects of activities are not considered in the resource consent application process, and that certain sources of GHG emissions caused by New Zealand activities not accounted for under the current scheme. This chapter also begins to consider the question of whether the scope of the RMA extends to taking account of future GHG emissions from land use activities when considering resource consent applications.

I. THE CLIMATE CHANGE RESPONSE ACT 2002

GHG emissions in New Zealand are primarily regulated through the Climate Change Response Act 2002 (CCRA) and associated regulations.[61] This legislation is partially supplemented by the RMA, which plays a limited role in climate change regulation, through provision for adaptation measures and taking account of the benefits of renewable energy in terms of GHG reductions. Whether the RMA allows consideration of future climate change effects of an activity under certain resource consent applications is a point of contention (which will be further discussed later in this chapter).

From New Zealand's signing of the UNFCCC in 1992 at the Rio conference up to the present day, there have been many "visions and revisions"[62] of New Zealand climate policy and legislation. While preliminary discussions on climate change regulation began after New

[61] Ministry for the Environment "Climate Change Regulations" (1 April 2011) Climate Change Information <www.climatechange.govt.nz/emissions-trading-scheme/building/policy-and-legislation/regulations.html>.

[62] T.S Eliot "Prufrock and Other Observations" *Poems* (A.A. Knopf, New York, 1920).

Zealand became a party to the UNFCCC,[63] the real debate did not begin until the Kyoto Protocol was concluded in 1997 and New Zealand ratified it in December 2002.

The CCRA was enacted one month prior to New Zealand's ratification of the Kyoto Protocol. Importantly, it established a registry to handle and transfer holdings of assigned amount units – internationally tradable carbon credits issued under the KP – and enabled the Minister of Finance to trade those units on the international carbon market. This was key to achieving the stated purpose of the Act, which was to:

> ...enable New Zealand to meet its international obligations under the [UNFCCC] and the [Kyoto] Protocol, including, but not limited to —
>
> (a) its obligation under Article 3.1 of the Protocol to retire units equal to the number of metric tonnes of carbon dioxide equivalent of human-induced greenhouse gases emitted from the sources listed in Annex A of the Protocol in New Zealand in the commitment period; and
>
> (b) its obligation to report to the Conference of the Parties via the Secretariat under Article 7 of the Protocol and Article 12 of the Convention.[64]

The Act left it open as to the specific means New Zealand would employ to meet these obligations. After the CCRA was passed, both an emissions trading scheme and carbon tax were considered by the government as viable options for fulfilling New Zealand's international obligations, and eventually the decision was made to go ahead with an Emissions Trading Scheme ("ETS"). A working group was formed in 2007, tasked with designing an ETS for New Zealand, and a bill was introduced into Parliament in November 2007 to enact the New Zealand ETS[65], receiving royal assent on 25 September 2008.

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[63] See Peter Wilson "The Economics of Emissions Trading" *Climate Change Law and Policy in New Zealand,* Alastair Cameron (ed) (LexisNexis: Wellington, 2011), 127, at 154; *Climate Change: The New Zealand Response, New Zealand's First National Communication under the Framework Convention on Climate Change* (September 1994) FCCC/NC/2 at 33.

[64] Note: the purpose has been amended four times, the key amendments taking effect on 26 September 2008, pursuant to the Climate Change Response (Emissions Trading) Amendment Act 2008) and on 8 December 2009, pursuant to the National Government's Climate Change Response (Moderated Emissions Trading) Amendment Act 2009. The updated purpose of the CCRA (s3), to reflect the enactment of the ETS, is to:

> (a) enable New Zealand to meet its international obligations under the Convention and the Protocol ...
>
> (b) provide for the implementation, operation, and administration of a GHG emissions trading scheme in New Zealand that supports and encourages global efforts to reduce GHG emissions by assisting New Zealand to meet its international obligations under the Convention and the Protocol, and by reducing New Zealand's net emissions below business-as-usual levels.

[65] Climate Change Response (Emissions Trading) Amendment Bill 2007.

The CCRA contains the central elements of New Zealand's climate change policy framework. It set up the structure for issuing, trading and retiring domestic carbon credits by and on behalf of the Crown, the basis for a national inventory agency to measure and account for emissions and sinks, and the primary mechanisms of the New Zealand ETS. The CCRA also sets up the regulatory framework for the calculation of emissions from key industrial sectors, and for the calculation of GHG removal activities.

II. THE NEW ZEALAND EMISSIONS TRADING SCHEME

The ETS in its original form was short-lived, as the Fifth Labour Government who created the ETS and passed it into legislation was replaced by a National-led government less than two months later after a general election.[66] The National government quickly established a Select Committee to review the ETS and in 2009 it was modified, returning in a diluted form.[67] Due to a number of faults, the ETS in its current state does not provide strong incentives for New Zealand industry to substantially reduce emissions, and rather protects the economic interests of New Zealand's largest GHG emitters.[68] However, for the purposes of this dissertation it is not necessary to delve into its nuances and inefficacies, only its general operation.[69]

The New Zealand ETS was designed pursuant to obligations under the UNFCCC and the Kyoto Protocol, namely, to introduce domestic policies to reduce emissions. The ETS is a market-based scheme through which, in theory, the costs of GHG emissions are internalised, with the "cost" of the emissions falling on participants in the scheme, New Zealand's major emitters.[70] Emitters are required to pay for their emissions through "surrendering" carbon credits ("NZUs" – either bought from or gifted by the government), whereas participants who reduce emissions (e.g through forestry) earn NZUs from the government. Participants can trade

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[66] The National Party won the general election on 8 November 2008.

[67] By the Climate Change Response (Moderated Emissions Trading) Amendment Act 2009.

[68] Geoff Bertram and Simon Terry *The Carbon Challenge: Response, Responsibility and the Emissions Trading Scheme (*Wellington, Bridget Williams Books, 2010), at iii.

[69] Stated simply – the ETS creates a far from perfect carbon market, especially given the exclusion of New Zealand's largest GHG emitter, the agricultural sector, until January 2015, the lack of a cap on emissions, the transitional provision whereby participants must surrender only one NZU for every two tonnes of CO^2-equivalent emissions, instead of one NZU for one tonne, the free allocation of units to some participants, and the 'intensity based' approach for certain participants.

[70] Currently, participants in the ETS are the industries of: pre-1990 forestry, post-1989 forestry, transport (liquid fossil fuels), stationary energy, emission-intensive industrial processes that are not trade-exposed, trade-exposed emission-intensive industrial processes. Agriculture participants are required to begin surrendering units in 2015. A proposed amendment to the ETS currently in the House will see the indefinite suspension of obligations for agriculture.

NZUs in the carbon market, where those who reduce emissions profit, and those who create emissions pay.

The rationale behind the ETS is to reduce GHG emissions through providing economic incentives. Prior to the ETS, emissions were negative externalities; emitters were not required to pay for the effects of their activities, leaving society to face the costs. The historical treatment of large GHG emitters has been criticised in these terms:

> Among businesses, the fossil-fuel industry is allowed to dump its main waste, carbon dioxide, for free. Nobody else gets that break – if you own a restaurant, you have to pay someone to cart away your trash, since piling it in the street would breed rats.[71]

Putting a price on emissions is in essence making GHG emitters pay for their own trash. This trash has been piling up in the street for years, causing a worldwide rat infestation. The rat infestation still exists, but the ETS ensures that some participants, to an extent, must now pay for their trash to be removed so that they do not exacerbate the rat infestation further. This trash will be removed by other participants in the scheme (e.g forestry), who will be rewarded for this in the form of carbon credits which can in turn, be traded in exchange for cash.

Participation in the NZETS is determined in relation to activities. An individual, company or entity is, or may become, a participant if they are conducting any of the activities listed in schedule 3 or 4 of the CCRA. These include activities relating to forestry, liquid fossil fuels, stationary energy (coal, natural gas), industrial processes, agriculture and waste. Activities have been phased in over a period of time, and some activities, namely agriculture and waste, although included in the schedules are not yet required to participate. Participants in the ETS include both emitters and those carrying out "removal" activities.

It is important to note that the ETS covers only emissions created within New Zealand. So while fossil fuel activities are covered under the ETS, only emissions from fossil fuels consumed in New Zealand and the byproducts of extraction are subject to the ETS. Future emissions from fossil fuels mined in New Zealand and exported overseas are not accounted for.[72] Currently, such emissions are not accounted for anywhere in New Zealand's climate change framework.

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[71] Bill McKibben, above n 21.

[72] Climate Change (Stationary Energy and Industrial Processes) Regulations 2009, s 11. Coal, which is exported by the miner is deducted when carrying out the calculation of emissions for which the miner is liable for under the ETS.

III. THE RESOURCE MANAGEMENT ACT 1991

The RMA is New Zealand's primary environmental management and planning legislation. The purpose of the RMA is to promote the sustainable management of natural and physical resources. Sustainable management is the underlying thread of the Act, and is defined in Part II, section 5 of the Act.[73]

The purpose of sustainable management is supplemented by the rest of Part II, which sets out various considerations decision makers need to take into account when assessing whether an activity will achieve the purpose of sustainable management. Decisions makers are required to "recognise and provide for" specified matters of national importance,[74] have particular regard to certain "other matters", including the effects of climate change and the benefits of renewable energy,[75] and take into account the principles of the Treaty of Waitangi.[76] Part II provides the foundation upon which the Act is built, the fundamental importance of which was stated by Randerson J in *Auckland City Council v John Woolley Trust*:

> Part 2 is the engine room of the RMA and is intended to infuse the approach to its interpretation and implementation throughout, except where Part 2 is clearly excluded or limited in application by other specific provisions of the RMA.[77]

The RMA has been used in the context of climate change regulation in a limited way. In 2004, the Resource Management (Energy and Climate Change) Amendment Act 2004 explicitly incorporated climate change considerations into the RMA, at the same time putting limitations on how climate change can be considered under the Act. Prior to the 2004 amendment, decision makers saw the RMA as a tool for regulating climate change.[78]

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[73] (5)(2) ..."sustainable management" means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while —
(a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
(b) Safeguarding the life-supporting capacity of air, water, soil and ecosystems; and
(c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.

[74] RMA, s6.

[75] RMA, s7.

[76] RMA, s8.

[77] *Auckland City Council v John Woolley Trust* [2008] NZRMA 260 (HC) at [47].

[78] Ministry for the Environment "Chapter 5: Responses to atmospheric change" *State of New Zealand's Environment 1997* (Ministry for the Environment, 1997) <www.mfe.govt.nz/publications/ser/ser1997/html/chapter5.9.html>. See also *Climate Change Law and Policy in New Zealand,* Alastair Cameron (ed) (LexisNexis: Wellington, 2011), 127, at 154.

The RMA was used to regulate GHG emissions in the 1993 "call-in"[79] of the Stratford Power Station application.[80] A Board of Inquiry was established to hear an application by the Electricity Corporation of New Zealand (ECNZ) who wanted to construct and operate a combined-cycle gas-fired power station. The board recommended imposing a condition requiring the establishment and maintenance of a carbon sink to offset GHG emissions from the operation of the plant. Following this decision, the Minister for the Environment weakened the condition to require ECNZ to instead "take such steps as are necessary and effective to avoid, or remedy or mitigate the effects of the additional amount of carbon dioxide being discharged as a result of the exercise of this consent."[81] Despite the weakening of the condition, its mere existence demonstrates that the government considered the RMA as an appropriate instrument for climate regulation. The importance of climate change was emphasised in several cases before the Environment Court in 2002, however, these did not lead to regulation of the emissions under the RMA.[82]

IV. THE RESOURCE MANAGEMENT (ENERGY AND CLIMATE CHANGE) AMENDMENT ACT 2004

The Resource Management (Energy and Climate Change) Amendment Act 2004 ("the 2004 Amendment Act" or "the Amendment Act") added several new sections to the RMA, which regulate the powers of local authorities in regard to the regulation of GHG emissions. The purpose of the Act is:

> a) to make explicit provision for decision makers under the RMA to have particular regard to the efficiency of the end use of energy, the effects of climate change, and the benefits to be derived from the use and development of renewable energy; and

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[79] This was the first application to be the subject of the Minister of the Environment's call-in powers (RMA, ss140-144A) because of the concern about GHG emissions.

[80] Board of Inquiry *Proposed Taranaki Power Station Air Discharge Effects* (Report and Recommendation of the Board of Inquiry Pursuant to Section 148 of the Resource Management Act 1991, 1995), at 227–236. Condition 4 begins: "The consent holder shall establish a carbon sink sufficient to eventually store in perpetuity the equivalent quantity of carbon emitted from the site over the term of the permit." The condition goes on to set out details of an implementation plan.

[81] Decision of Hon Simon Upton, Minister for the Environment, *Air Discharge Permit Taranaki Combined Cycle Power Station*, 23 March 1995.

[82] In *Environmental Defence Society (Incorporated) v Auckland Regional Council and Contact Energy* [2002] NZRMA 492 (ENC) the Environment Court emphasised the importance and relevance of climate change and New Zealand's international commitments under the UNFCCC and the Kyoto Protocol. The Court however declined to approve the condition sought by the EDS due to "considerable disquiet about the efficacy, appropriateness and reasonableness of [the] condition as proposed." In *Environmental Defence Society v Taranaki Regional Council* ENC Auckland A184/02, 6 September 2002 the Court came to a similar decision.

b) to require local authorities to plan for the effects of climate change, but not to consider the effects on climate change of discharges into air of greenhouse gases.[83]

To achieve this purpose, the Amendment Act introduced three new principles into section 7 of the RMA. These principles require particular regard be given to the efficiency of the end use of energy,[84] the effects of climate change,[85] and the benefits to be derived from the use and development of renewable energy.[86]

As well as the additional principles in section 7, the Amendment Act inserted four sections into the body of the RMA: sections 70A, 70B, 104E and 104F.

Sections 70A and 70B restrict the ability of of regional councils to make rules and regulations relating to controls on discharges of GHGs which "have regard to the effects of such a discharge on climate change, except to the extent that the use and development of renewable energy enables a reduction in the discharge into air of greenhouse gases either in absolute terms; or relative to the use and development of non-renewable energy."

Section 104E prohibits consent authorities from having regard to effects on climate change when considering applications for discharge and coastal permits.[87] Section 104F relates to the implementation of prospective national environmental standards to control GHG emissions.[88]

V. THE GREENPEACE CASES AND THE MEANING OF SECTION 104E

Not long after the 2004 amendments to the RMA had been passed into law, there were disputes as to their ambit and definition. The most high-profile litigation concerning the climate change amendments were the *Greenpeace* decisions. In 2005, Greenpeace filed an appeal opposing Mighty River Power's proposed refurbishment of "Marsden B" as a coal-fired

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[83] Resource Management (Energy and Climate) Amendment 2004, s 3.

[84] RMA, s 7(ba).

[85] RMA, s 7(i)

[86] RMA, s 7(j).

[87] Section 104E states: When considering an application for a discharge permit or coastal permit to do something that would otherwise contravene section 15 or section 15B relating to the discharge into air of greenhouse gases, a consent authority must not have regard to the effects of such a discharge on climate change, except to the extent that the use and development of renewable energy enables a reduction in the discharge into air of greenhouse gases, either—
(a) in absolute terms; or
(b) relative to the use and development of non-renewable energy.

[88] Section 104F and national standards will be considered in chapter four.

power station.[89] The question of whether the ambiguous wording of s104E allowed for an interpretation which would oblige consent authorities to consider the comparative benefits (in terms of GHG reductions) of renewable energy when considering specific applications involving fossil fuel-generated energy went all the way to the Supreme Court.[90]

The contentious point was whether the reduction of GHG discharges, relative to the use and development of renewable energy, was only to be considered in cases concerning renewable energy, or whether it could also be considered in the context of an application for fossil fuel generation.

The Environment Court struck out Greenpeace's application, however on appeal to the High Court, Williams J found in favour of Greenpeace. His honour held that section 104E does allow a consent authority to compare a proposed non-renewable energy activity to a renewable energy development which would reduce GHG emissions.[91] Therefore, when considering an application for a non-renewable energy project, considering the negative climate change effects of GHG emissions from the energy generation is permissible.

The High Court decision was overturned a year later[92] by the Court of Appeal and was subsequently upheld by the Supreme Court.[93] The Court of Appeal held that consent authorities may consider the effects of GHG emissions on climate change when considering applications for the use and development of renewable energy, but may not consider the climate change disbenefits of non-renewable energy generation.[94] The Court noted that considering the effects of the GHG emissions from fossil fuel energy generation as part of the application would be "double-counting" the emissions, as this would mean they would be addressed on both a national and regional level. It was thought that would be contrary to a clear policy of addressing GHG emissions on a national scale.[95]

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[89] *Greenpeace New Zealand Inc v Northland Regional Council and Mighty River Power Limited* ENC Auckland A094/06, 11 July 2006.

[90] At the Court of Appeal stage, there was a change of party. Mighty River Power appealed against the High Court decision, but then abandoned the proceedings. Genesis Power then took over the proceedings in the Court of Appeal, applying for a declaration under section 310 of the RMA.

[91] *Greenpeace New Zealand v Northland Regional Council* [2007] NZRMA 87 (HC) at [57].

[92] 11 December 2007.

[93] *Greenpeace New Zealand Incorporated v Genesis Power Ltd* [2008] NZSC 112; [2009] 1 NZLR 730.

[94] *Genesis Power Ltd v Greenpeace New Zealand Incorporated* [2007] NZCA 569; [2008] NZRMA 125 at [43].

[95] *Genesis Power Ltd v Greenpeace New Zealand Incorporated* [2007] NZCA 569; [2008] NZRMA 125 at [40].

In affirming the Court of Appeal's decision, the majority of the Supreme Court said:

> When s 104E is interpreted by reference to its text and its purpose, and the record of the passage through Parliament of the legislation of which it formed part is considered, the outcome is clear; the exception within it applies only to applications involving the use and development of renewable energy.[96]

Chief Justice Elias wrote a dissenting opinion. In response to Genesis' submission that the choice of non-renewable energy is "neutral or irrelevant" to the determination of a resource consent application,[97] her Honour argued that section 104E requires a comparison between non-renewable energy and renewable energy to determine whether the project would achieve a reduction in GHG emissions, regardless of whether the application is for renewable or non-renewable energy.[98] The Chief Justice considered that to limit the scope of s104E to only considering the GHG reduction benefits of renewable energy in applications for renewable energy was inconsistent with the wider statutory context of sustainable management and restricted the s7(j) consideration of "the benefits to be derived from the use and development of renewable energy."[99]

VI. CONSIDERATION OF CLIMATE CHANGE EFFECTS UNDER SECTION 104(1)(A) - BULLER COAL

This section (and chapter three, in more detail) will discuss two major flaws in the national climate change regulatory framework, and how they might be ameliorated through consideration of climate change effects under section 104(1)(a) of the RMA. The changes to the RMA in 2004 were made in anticipation of a comprehensive national framework to regulate climate change. The first issue is that this framework does not cover all emissions New Zealand has a role in creating, notably, emissions from coal for export mined in New Zealand. Secondly, the ETS only considers GHG emissions once they have already been produced, and under the RMA, GHG emissions from proposed activities are not considered before it is decided whether the activity should be allowed to proceed. These gaps in the national framework create an opportunity and a need for the consideration of climate change effects in the RMA, to cover the circumstances not provided for by New Zealand's wider climate change regulations.

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[96] *Greenpeace New Zealand Incorporated v Genesis Power Ltd* [2008] NZSC 112 at [65].

[97] At [9].

[98] At [11].

[99] At [10].

Despite the stated purpose of the 2004 Amendment Act to exclude climate change from consideration by local authorities, the provisions enacted have a specific focus, only excluding the consideration of GHG emissions in certain circumstances.[100] Therefore, the consideration of climate change effects should be allowed in situations not expressly prohibited in the RMA. Notably, there may be a residual discretion to consider potential effects on climate change of land use proposals not involving applications relating to the discharge of GHG emissions.[101] This is not prohibited under the RMA, and would be consistent with New Zealand's climate change mitigation commitments.

The consideration of climate change effects under section 104(1)(a) would be appropriate when evaluating a land use resource consent application for a coal mine. Coal mines, while emitting very little carbon dioxide in the extraction process, give rise to large amounts of GHG emissions when the coal is burnt at a later point. For this reason, and the fact that the key case on this point is concerned with coal mines, this dissertation will primarily use the example of land use resource consent applications for coal mines, rather than other greenhouse gas-creating activities.

The issue of climate change considerations and land use consents arose in the context of land use consent applications for two coal mines on the West Coast of New Zealand, and was heard in the Environment Court in early 2012. In this case, *Re Buller Coal,* the West Coast Environment Network (West Coast ENT) and Royal Forest and Bird Protection Society of New Zealand (Forest and Bird) appealed a decision of the Buller District Council, who granted the requisite land use consents to Solid Energy to develop the Mt William North coal mine on the Stockton Plateau, and to Buller Coal to develop the Escarpment Mine on the Denniston Plateau.[102]

The appellants in *Re Buller Coal* focused on the gap between the RMA and the CCRA in considering future climate change effects of activities carried out on New Zealand soil. The prime example of this aberration, as already mentioned, is the lack of consideration of the effects of GHG emissions when assessing resource consents. The two mines in question, the Escarpment Mine and Mt. William North Mine are expected to produce approximately 4.3

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[100] The interpretation of the 2004 Amendment Act and its consistency with climate change considerations under the RMA is further discussed in chapter three.

[101] Vernon Rive "New Zealand Climate Change Regulation" Alastair Cameron (ed) *Climate Change Law and Policy in New Zealand* (LexisNexis, Wellington, 2011) 165, at 184; Weeks T and Steane E "Climate Change and the RMA: implications of Greenpeace New Zealand Inc v Genesis Power Ltd" (April 2009) NZRMJ 1, at 4-5.

[102] *Re Buller Coal* [2012] NZEnvC 80.

million and 4.1 million tonnes of marketable coal respectively, 100% of which is to be exported and burnt overseas, primarily in China, India, Japan, Brazil and South Africa.[103]

The Environment Court was asked to make a declaration on the issue of whether a decision maker under the RMA is able to consider the effects on climate change of future GHG emissions from the activity for which land use is being sought (in this case, carbon dioxide emissions arising from the future combustion of coal extracted in the mines), when considering an application under section 104(1)(a) of the RMA.

Judge Newhook found in favour of the mining parties, holding that decision makers under the RMA are prohibited from having regard to GHG emissions in giving consent for any activity, except for in relation to the benefits of renewable energy. Judge Newhook based this decision on the purpose of the 2004 Amendment Act, and the Supreme Court decision in *Greenpeace*. Despite the case turning on the ambiguity as to whether consequential emissions from mines can be considered under s104(1)(a), Judge Newhook considered that there was no "ambiguity, uncertainty, or room for discretion or 'choice' in the interpretation of the words and policy of the provisions of the Act under consideration."[104] For this reason, he deemed New Zealand's international obligations irrelevant.

Despite the decision being received as "not surprising" by some commentators,[105] Judge Newhook has been criticised for the "short shrift given to arguments by counsel (including Sir Geoffrey Palmer for West Coast ENT) for the environmental groups."[106] Judge Newhook disposed of many of counsel's arguments by saying that there was no ambiguity or choice to be had. However, given that taking into account climate change effects when considering land use consents is *not* prohibited under the RMA and there are many arguments for its consideration, it is an oversight to say that there is no ambiguity or choice.

Judge Newhook issued the declaration sought by Solid Energy and Buller Coal, which was:

> In considering BCL's applications for consents for coal mining activities at the Escarpment Mine including applications for land use and Solid Energy's applications for consents for coal mining

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[103] *Re Buller Coal* above n 102 at [11]; *Royal Forest and Bird Protection Society of New Zealand Inc v Buller Coal Ltd,* above n 1, at [6].

[104] *Re Buller Coal a*t [38].

[105] Vernon Rive "Coal mines, climate change and test cases: initial thoughts on *Buller Coal"* (2012) 9 BRMB 129 at 131; Simpson Grierson "'On' vs 'Of': Climate Change and Resource Consents" FYI (30 May 2012) <www.simpsongrierson.com/resource-management-climate-change-resource-consents>.

[106] Vernon Rive "Coal mines, climate change and test cases: initial thoughts on *Buller Coal"* (2012) 9 BRMB 129 at 131.

> activities for coal mining activities at the Mt William North mining area including applications for land use, but neither including any applications to discharge contaminants to air from the combustion of coal to be mined, the decision maker cannot have regard to the effects on climate change of discharges into the air of greenhouse gases arising from the subsequent combustion of the coal extracted in reliance on those consents, either where:
>
> a) any discharge of greenhouse gases associated with the end use of the coal occurs outside NZ territorial boundaries; or
> b) any discharge of greenhouse gases associated with the end use of coal occurs in New Zealand.

The West Coast ENT and Forest and Bird appealed the decision to the High Court. In *Royal Forest and Bird Protection Society of New Zealand Inc v Buller Coal Ltd* (*Buller Coal*), Justice Whata in the High Court found against the appellants, upholding Judge Newhook's decision.[107]

The questions for consideration in the High Court were the same as those in the Environment Court. Buller Coal and Solid Energy sought confirmation of the declaration issued by the Environment Court, while West Coast ENT and Royal Forest and Bird sought a revisit of the statutory interpretation issues they raised in the Environment Court. These questions were conflated into what Whata J cited as the "ultimate issue" in the case, being:

> whether the Resource Management (Energy and Climate Change) Amendment Act 2004 removed the jurisdiction of consent authorities to consider the effects on climate change of the discharge of GHG emissions from the end use of coal.

Justice Whata found that the effect of the Resource Management (Energy and Climate Change) Amendment Act 2004 was to prohibit potential GHG emissions from being taken into account by decision makers considering applications for land use resource consents. In the context of consents for coal that is to be combusted in New Zealand, Whata J felt that the comprehensive scheme for regulating GHG discharges under New Zealand was prohibitive of also considering them under the resource consent application process. His honour held that overseas discharges of emissions should also not be considered as part of this process, for the main reason that it was outside of the jurisdiction the RMA confers upon consent authorities. The nuances of the High Court's decision will be more fully explored in chapter 3.

After the *Greenpeace* decision and the High Court's recent *Buller Coal* decision, there does not seem to be much scope for climate change mitigation measures to be considered on a local

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[107] *Royal Forest and Bird Protection Society of New Zealand Inc v Buller Coal Ltd*, above n 1.

level, except by voluntary means. The idea of a residual discretion to consider potential effects on climate change of land use proposals not involving applications relating to the discharge of GHG emissions has been rejected by the High Court. However, this is not the correct decision. Chapter 3 will explore the High Court *Buller Coal* decision further and the reasons why the RMA in certain circumstances, is the appropriate mechanism to consider the potential effects of GHG emissions flowing from an activity.

CHAPTER THREE

The Consideration of Climate Change Effects Under the RMA

This chapter focuses on the consideration of climate change effects by consent authorities under s104(1)(a) of the RMA when assessing a land use resource consent application. The current state of the law, as stated in *Buller Coal*, is that consideration of negative climate change effects under s104(1)(a) is not permitted. This chapter outlines why the decision in *Buller Coal* is incorrect, and creates an outcome which is inconsistent with the RMA's overall purpose of sustainable management, the scope of effects and the environment under the RMA, and New Zealand's international climate change obligations. This chapter will also consider why the 2004 amendments to the RMA do not entirely preclude consent authorities from considering the effects of climate change in certain circumstances, most importantly, under applications for land use consents.

The RMA is New Zealand's primary environmental management and environmental protection legislation. Despite this, the environmental effects of climate change are not taken into account when decisions are made as to whether proposed activities should be granted resource consent under the RMA. Deborah Martin suggests that it is "under the RMA that developers, councils and environmental experts should consider how projects would contribute to climate change. This needs to happen before those projects are granted resource consents, not after."[108] When it comes to preventing adverse effects, "it is better to put a fence at the top of a cliff than to station an ambulance at the bottom."[109] Currently, in terms of climate change policy, New Zealand is perching at the top of the cliff, possessing all of the materials and tools to build a fence, but is relying on the ambulance at the bottom to suffice. Considering the climate change effects of a land use proposal under the RMA would constitute the beginnings of a "fence", whereas the ETS is an ambulance which is lacking in staff and medical supplies.

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[108] Deborah Martin "Law should include climate change" *The Press* (Christchurch, 25 May 2012).

[109] Sir Truby King (attributed).

I. SUSTAINABLE MANAGEMENT AND INTEGRATED MANAGEMENT

In *Buller Coal* Whata J said that considering GHG emissions under the s104(1)(a) assessment for coal mines is "intuitively attractive given the primacy afforded to sustainable management in the Act."[110] However, his honour then went on to explain why such a consideration is not consistent with the purpose of sustainable management. With respect, Justice Whata's intuitions were correct, but his honour was mistaken in his judgment. It is both intuitively and logically attractive to take future climate change effects into account when considering resource consent applications for projects which will increase emissions of GHG emissions.

The sustainable management of natural and physical resources is the governing purpose of the RMA. To reiterate, sustainable management includes sustaining natural and physical resources[111] "to meet the reasonably foreseeable needs of future generations", "safeguarding the life-supporting capacity of air, water, soil and ecosystems", and "avoiding, remedying, or mitigating any adverse effects of activities on the environment."[112]

Judge Bollard, the late Principal Environment Court judge, eloquently expressed the important interrelationship between climate change and sustainable management. He said:

> Some may think that sustainability involves little more than coping purposefully with the effects of climate change. In truth, the imperatives underscoring the need for sustainability have a much wider focus, and decision-making at all levels must reflect that if natural resources and environmental attributes that are popularly cherished in the generality are to be protected and maintained for the benefit of present and future generations.[113]

Sustaining the potential of resources to meet the reasonably foreseeable needs of future generations is particularly relevant to climate change, which poses a threat New Zealand's natural and physical resources.[114] Effects including an increased frequency in floods, droughts and other extreme weather events, sea level rise, and changes in rainfall patterns will affect

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[110] *Royal Forest and Bird Protection Society of New Zealand Inc v Buller Coal Ltd*, above n 1, at [44].

[111] Notably, mineral resources are excluded from the class of resources which should be sustained. This recognises the non-renewable nature of minerals. However, the use of minerals, and especially their extraction, is still subject to the purpose of sustainable management except with respect to controlling the rate at which mineral resources are consumed: *Gebbie v Banks Peninsula District Council* [2000] NZRMA 553 (ENC) at [16].

[112] RMA, s5.

[113] Principal Environment Court Judge John Bollard "Climate Change Issues from the Perspective of the Environment Court" (2008) 7 BRMB 127, 129–130.

[114] It is notable that this principle is also stated in Art 3(1) of the UNFCCC: "The Parties should protect the climate system for the benefit of present and future generations of humankind."

New Zealand, and the productivity of New Zealand's resources.[115] Judge Bollard also remarked that in affording due weight to the foreseeable needs of future generations, "the effects of climate change are a critical area of consideration."[116]

The value of intergenerational equity is strongly reflected in s5(2)(a). This principle has not been discussed in great detail by the Courts, but it has been held that the reasonably foreseeable needs of two future generations at a minimum must be considered.[117] The New South Wales Land and Environment Court considered the value of intergenerational equity in *Gray v Minister for Planning*.[118] The applicant, Gray, argued that in light of the principle of intergenerational equity, "ecologically sustainable development considerations" require that downstream GHG emissions are taken into account when considering a proposed coal mine project. Justice Pain found that:

> It is apparent that there is a failure to take the principle of intergenerational equity into account... in the environmental assessment requirements if the major component of greenhouse gas which results from the use of the coal, namely scope 3 emissions, is not required to be assessed. That is a failure of a legal requirement to take into account the principle of intergenerational equity.[119]

In the New Zealand context, despite a difference in wording – "needs of future generations" versus "intergenerational equity" – the essence of this ruling is just as applicable in New Zealand. The effects of climate change on future generations are an important consideration in terms of sustainably managing New Zealand's resources, which points towards considering such effects when assessing resource consent applications.

Section 5(2)(b) – safeguarding the life-supporting capacity of air, water, soil, and ecosystems – is also relevant to climate change. Climate change is already having effects on the life-supporting capacity of water in terms of ocean acidification and contamination of ground

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[115] Ministry for the Environment "Climate Change Impacts in New Zealand" (14 December 2009) <http://www.mfe.govt.nz/issues/climate/about/impacts.html>.

[116] Principal Environment Court Judge John Bollard "Climate change issues from the perspective of the Environment Court" (2008) 7 BRMB 127, 128.

[117] *Suburban Estates Ltd v Christchurch City Council* ENC, Christchurch C144/2004, 1 October 2004 at [18].

[118] *Gray v Minister for Planning* [2006] NSWLEC 720.

[119] Ibid, at 126. Scope 3 emissions are indirect GHG emissions such as downstream emissions from the use of products. See: World Business Council for Sustainable Development and World Resources Institute "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard" (2004) <http://pdf.wri.org/ghg_protocol_2004.pdf>

water in low-lying island states, and on biodiversity and ecosystems.[120] It is important to have regard to these threats when considering whether climate change-inducing projects will be consistent with sustainable management principles.

Section 5(2)(c) states that sustainable management involves "avoiding, remedying, or mitigating any adverse effects of activities on the environment." As already discussed, climate change is causing, and will further cause many adverse environmental effects. The RMA, to the extent the text of the statute permits, should be able to avoid, mitigate and remedy the effects of climate change through considering those effects in applications for consents which will contribute to climate change.

In his judgment in *Buller Coal* Whata J considered that:

> Ongoing district level management of greenhouse gas effects .... via consenting processes would jar heavily against the carefully constructed framework of the Act dealing with air discharges and undermine the methods overtly preferred by Parliament for achieving sustainable management of resources in relation to air discharges and related effects on climate change.[121]

However, in *Auckland Regional Council v Auckland City Council* the Environment Court held that in terms of integrated management, it is appropriate for territorial authorities to have regard to air discharges under land use consents in certain circumstances.[122] This case suggests that there is no blanket prohibition on territorial authorities considering air discharges, despite the matter being mostly in the control of regional authorities.

"Ongoing district level management of greenhouse gas effects" in some cases may be inconsistent with the national framework for dealing with GHG emissions. On the other hand, considering climate change effects in the merits of proposal under s104(1)(a) as part of the sustainability of a project in the long-term is consistent with sustainable management and would not overlap with the national framework. The government created the ETS to reduce

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[120] Orr et. al, "Anthropogenic ocean acidification over the twenty-first century and its impact on calcifying organisms" *Nature* 437, 681-686 (29 September 2005); IPCC "Climate Change and Biodiversity" (2004) <www.ipcc.ch/pdf/technical-papers/climate-changes-biodiversity-en.pdf>; J.C. Pernetta, P.J. Hughes (Eds.) Implications of Expected Climate Changes in the South Pacific Region: An overview, UNEP Regional Seas Reports and Studies No 128, United Nations Environment Programme, Nairobi (1990), at 56–67.

[121] *Royal Forest and Bird Protection Society of New Zealand Inc* v *Buller Coal,* above n 1, at [44].

[122] *Auckland Regional Council v Auckland City Council* [1997] NZRMA 205 at [10]-[11]. In this case, the Environment Court held that "We consider that [consideration of the effects of discharges of contaminants to air in the vicinity] can properly be described as integrated management of the effects of the use of land, and associated natural and physical resources of the district, as contemplated by section 31(a) [of the RMA]."

emissions from already existing infrastructure and industry. The consideration of whether a non-existent project should be allowed in the first instance, and the consistency of its anticipated GHG emissions with sustainable management is distinct from the workings of the ETS, and would co-exist comfortably alongside the scheme.

Justice Whata cited the policy of integrated management as another point against considering climate change effects as part of the resource consent process.[123] Integrated management has two different aspects.[124] In one sense, it is "ensuring that decisions on one resource take into account the effects on other resources and between the economic, social, cultural and environmental elements of our community's wellbeing."[125] In another sense, it is "the sharing and coordination of the values and inputs of a broad range of agencies, public, and other interests when conceiving, designing and implementing policies, programs or projects."[126]

The consideration of future negative effects of a land use consent is an important part of integrated management in both senses of the term. A decision to mine coal resources on the West Coast will have immediate effects on the surrounding environment of the mine, but will also have consequential effects on other resources in terms of climate change effects. Integrated management requires that all of these effects are taken into account when making a decision on whether to allow the consent. Taking such effects into account in the initial resource consent process is also consistent in terms of co-ordinating the management of climate change policy between central government and local government. The centrally governed ETS manages emissions from already existing activities, while the locally applied RMA under s104(1)(a) considers the future implications of projected emissions from activities seeking consent. In considering future effects of a proposed consent, decision makers under the RMA would not be usurping the role of central government, rather, complimenting them while determining whether a project would achieve the purpose of sustainable management.

There is an indisputable connection between taking the effects of climate change into account and the exercise of sustainable management. To ignore the severe environmental effects of climate change would be to subvert the purpose of the RMA and must be prevented only by

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[123] *Royal Forest and Bird Protection Society of New Zealand Inc* v *Buller Coal,* above n 1, at [43]-[45].

[124] Achieving integrated management is considered a function of both regional and territorial authorities under the RMA. ss 30(1)(a), 31(1)(a). However, the term is not defined in the Resource Management Act.

[125] Northland Regional Council "Integrated Management" <http://www.nrc.govt.nz/upload/7851/Integrated%20Management%20-%20Background.pdf>. For more on integrated management, see Ministry for the Environment "Not Just an Add On" [1993] Planning Quarterly (March 1993).

[126] B Mitchell "The Evolution of Integrated Resource Management" in R Lang (ed) *Integrated Approaches to Resource Planning and Management* (1986) at 13.

very clear legislative provision. Therefore, allowing decision makers to consider future effects on climate change of activities for which consents are sought is entirely consistent with the sustainable management of natural and physical resources.

II. EFFECTS AND SECTION 104 (1)(A)

The key assertion of this dissertation is that effects on climate change from GHG emissions caused by the use of coal should be taken into account when considering an application for a land use resource consent for a coal mine under section 104(1)(a). Before delving into this point, however, it is necessary to look at the way that effects are considered under the RMA.

The focus of the RMA is on controlling the effects of activities rather than the activities themselves. This approach is reflected in the definition of sustainable management[127] and can be seen in the permissive nature of section 9 which states that except as provided otherwise, land can be used in any way as long as the use is consistent with sustainable management. Under the RMA, activities may be placed into categories which have varying limitations placed on them, depending on the likely impacts of their effects: permitted, controlled, discretionary, restricted discretionary and non-complying. When an activity is not permitted, it is necessary to obtain a resource consent to carry out that activity. The five types of consent available under the RMA are land use consents, subdivision consents, water permits, discharge permits and coastal permits.[128]

The decision of whether or not to grant a resource consent is made by the relevant consent authority under section 104 of the RMA. Section 104 is in a way the "gatekeeper" section of the RMA, and stipulates what a consent authority may and may not have regard to when considering an application for resource consent. This dissertation will focus on section 104(1)(a) in particular.

[127] RMA, s5(2)(c): avoiding, remedying or mitigating any adverse effects of activities on the environment.

[128] Resource consents are considered and granted under Part 6 of the RMA.

Section 104(1)(a) provides:

> When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2, have regard to–
>
> (a) any actual and potential effects on the environment of allowing the activity [129]

In order to determine the applicability of section 104(1)(a) to climate change effects of GHGs, it is necessary to look closely at the key elements of the section: "actual and potential effects" of an activity, and "the environment".

III. ACTUAL AND POTENTIAL EFFECTS

"Effect" is defined very widely in section 3 of the RMA.[130] Accordingly, the Courts have taken a broad interpretation of effects,[131] the Court of Appeal saying that the word "effect" is to be read broadly in light of the scheme and purpose of the Act as a whole.[132] The coverage of the term "effect" is wide, and includes any effect regardless of scale.[133] Further, it is important to have regard to the overall result of an activity, and all matters which relate to effects.[134]

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[129] The rest of s104(1) provides:
(b) any relevant provisions of—
(i) a national environmental standard:
(ii) other regulations:
(iii) a national policy statement:
(iv) a New Zealand coastal policy statement:
(v) a regional policy statement or proposed regional policy statement:
(vi) a plan or proposed plan; and
(c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.

[130] In this Act, unless the context otherwise requires, the term effect … includes—
(a) Any positive or adverse effect; and
(b) Any temporary or permanent effect; and
(c) Any past, present, or future effect; and
(d) Any cumulative effect which arises over time or in combination with other effects— regardless of the scale, intensity, duration, or frequency of the effect, and also includes—
(e) Any potential effect of high probability; and
(f) Any potential effect of low probability which has a high potential impact.

[131] With the exception of the Court of Appeal in *Dye v Auckland Regional Council* [2002] 1 NZLR 337 (CA) who said that the section 3 definition of "effect" does not apply to s104(1)(a), citing the reference to "actual and potential effects" in s104(1)(a) as a deliberate exclusion of the section 3 definition of "effect". However, this statement was obiter and has not been followed by the Environment Court. See *Upper Clutha Environmental Soc Inc v Queenstown Lakes District Council* ENC Christchurch C104/02, 30 August 2002 and *Clifford Bay Marine Farms Ltd v Marlborough Ltd* ENC Christchurch C131/03, 22 September 2003.

[132] *Canterbury Regional Council v Newman* [2002] 1 NZLR 289 (CA) at [78]-[81]

[133] s3(d) RMA; *Duncan v Wanganui District Council* (1993) 2 NZRMA 101, at 103; *Environmental Defence Society Inc v Auckland Regional Council*, above n 82 at [59].

[134] *Elderslie Park Ltd v Timaru District Council* [1995] NZRMA 433 (HC).

IV. CLIMATE CHANGE IS A CUMULATIVE EFFECT

Climate change, caused by a cumulative build up of greenhouse gases in the atmosphere from many different sources, is a prime example of a "cumulative effect which arises over time or in combination with other effects", bringing it within the ambit of "actual and potential effects" in s104(1)(a).[135]

In *Environmental Defence Society v Auckland Regional Council* the Environment Court recognised the inclusion of cumulative climate change effects of GHG emissions in the wide scope of effects under the RMA, stating that "the cumulative effects of greenhouse gas emissions are accepted, by the Global Scientific Community and by the New Zealand government, to be widespread and serious."[136]

Opposing counsel in various cases have attempted to dismiss the significance of the effects of individual activities on climate change, citing the *de minimis* principle. However, this argument has not been accepted by the Courts.[137] In *Environmental Defence Society (Incorporated) v Taranaki Regional Council*, the Court found, in relation to climate change effects, that:

> Because of the stable nature of carbon dioxide and the fact that each small contribution is spread around the globe to combine and create the greenhouse effect, we are satisfied that, while it cannot be measured scientifically, the effect of the proposed plant will nevertheless be more than "de minimus" [sic] or "vanishingly small". It is just this very situation that section 3(d), which relates to cumulative effects, is intended to cover.[138]

The National Board of Inquiry rejected a *de minimis* argument in relation to a proposed condition to mitigate the effects of the CO2 emissions of a gas-fired power station, stating that without united and widespread efforts toward lowering emissions, climate change will become a prime example of Hardin's 'Tragedy of the Commons'.[139]

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[135] In *Dye v Auckland Regional Council* above n 131 the Court of Appeal adopted the restrictive approach that cumulative effects are a build up of effects, all the result of the activity which is under consideration. However, this statement was obiter and has not been treated as binding by the Environment Court. See *Outstanding Landscape Protection Society Inc v Hastings District Council* [2008] NZRMA 8 (ENC); *Emerald Residential Ltd v North Shore City Council* ENC Auckland A31/2004, 12 March 2004 and *Cashmere Park Trust v Canterbury Regional Council* ENC Christchurch C48/2004, 21 April 2004.

[136] *Environmental Defence Society Inc v Auckland Regional Council,* above n 82, at [63].

[137] See also *Genesis Power Ltd v Franklin District Council* ENC Auckland A203/05, 21 December 2005 where the Court rejected the argument that because the wind farm at issue was relatively small, the positive effects it would have on climate change were *de minimis*.

[138] *Environmental Defence Society (Incorporated) v Taranaki Regional Council,* above n 82.

[139] Board of Inquiry *Proposed Taranaki Power Station Air Discharge Effects,* above n 80.

Cases in both Australia and the United States have rejected the argument that GHG emissions should not be considered because their impacts are insignificant on a global scale. In *Gray v Minister of Planning* Pain J stated that decision makers and courts should not use the excuse that climate change is a global problem to refuse to consider the effects of local developments. Justice Pain said, 'the fact there are many contributors globally does not mean the contribution from a single large source … should be ignored in the environmental assessment process'.[140] The U.S Supreme Court in *Massachusetts v Environmental Protection Agency* espoused the same view, further noting that it is not relevant "that developing countries such as China and India are poised to increase greenhouse gas emissions substantially over the next century'.[141]

It is also important to note that effects do not have to manifest immediately. Future effects are included in the section 3 definition, and the future state of environment is a relevant consideration.[142] In *Environmental Defence Society v Auckland Regional Council* the Court considered both effects on the existing environment and the future effects of allowing the proposal in question. In considering future effects on climate change, the Court stated "we have to consider the environment as it is likely to be from time to time, having regard to existing scientific knowledge and a reasonable prognosis based thereon."[143]

V. CLIMATE CHANGE IS A CONSEQUENTIAL EFFECT OF GRANTING CONSENT FOR COAL MINES: A CRITIQUE OF BULLER COAL

In the context of coal mined in New Zealand and exported, climate change is a "consequential effect" of the coal mine being granted resource consent. In *Buller Coal,* Whata J's reasoning for refusing to consider the climate change effects of a coal mine under s104(1)(a) was that because GHG emissions from coal are not a direct consequence of granting a land use consent for a coal mine, they are not a relevant consideration. His honour accepted that some "downstream" activities, like increased vehicle traffic, can be considered under s104(1)(a), but said that because "regional jurisdiction to control the effects of GHGs has been conditionally removed by Parliament, the normative basis for ongoing district level management of industrial discharges is weak."[144]

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[140] *Gray v Minister for Planning* [2006] NSWLEC 720 at [98].

[141] *Massachusetts v Environmental Protection Agency*, 549 U.S. 497 (2007) at 22-23.

[142] Section 3(c) RMA; *Stalker v Queenstown Lakes District Council* ENC Christchurch C40/04, 2 April 2004; *Queenstown Lakes District Council v Hawthorn Estate Ltd* [2006] NZRMA 424 (CA).

[143] *Environmental Defence Society v Auckland Regional Council,* above n 82, at [64].

[144] *Royal Forest and Bird Protection Society of New Zealand Inc v Buller Coal Ltd,* above n 1, at [43]

Justice Whata's reasoning on this point is flawed in several ways. First, the fact that permission for GHG discharges is not given under a land use consent is not an obstacle to considering their consequential effects. Second, regional jurisdiction to control or consider the effects of GHGs has *not* been removed by Parliament in the context of land use consents. Jurisdiction has only been removed in relation to discharge consents and coastal permits.

Consequential effects, or the "end use" effects of an activity seeking consent are a relevant consideration under s104(1)(a), as they come within the ambit of "actual and potential" effects. The inclusion of consequential effects as part of the s104(1)(a) analysis supports consideration of the climate change effects of coal when assessing a land use consent application for a coal mine.

The issue of consequential effects was considered in detail by the Environment Court in *Beadle v Minister of Corrections*.[145] In this case, the question for the Court was whether in considering consent applications for earth and stream-works, it was able to take into account the intended end-use of the area as a corrections facility. Opponents of the consents argued that because the two sets of approvals – the resource consents at issue and the land designation for the corrections facility – are inextricably linked, it is appropriate to consider the end-use of the land as a potential effect of allowing the activities that the resource consent applications were seeking approval for.[146] The applicants argued that there was no "objective link between the works and the effects of the prison" and that the end-use effects were too far removed to be considered.[147]

From a review of case law,[148] the Court discerned:

> a general thrust towards having regard to the consequential effects of granting resource consents, particularly if they are environmental effects for which there is no other forum, but with limits of nexus and remoteness.[149]

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[145] *Beadle v Ministry of Corrections* ENC Wellington A74/02, 8 April 2002.

[146] At [74].

[147] At [75]

[148] *Metekingi v Rangitikei-Wanganui Regional Water Board* [1975] 2 NZLR 150 (NZSC); *Gilmore v National Water and Soil Conservation Authority and Minister of Energy* (1982) 8 NZTPA 298 (HC) ; *Application by the Canterbury Regional Council* [l995] NZRMA 110 (PT); *Lee* v *Auckland City* [1995] NZRMA 241 (PT); *Royal Forest and Bird Protection Society v Manawatu-Wanganui Regional Council* [1996] NZRMA 241 (PT); *Aquamarine v Southland Regional Council* (1996) ELRNZ 361 (ENC); *Cayford v Waikato Regional Council* ENC Auckland A127/98, 23 October 1998; *Pokeno Farm Family Trust v Franklin District Council* ENC Auckland A37/97, 24 March 1997; *Ngati Rauhoto Land Rights Committee v Waikato Regional Council* ENC Auckland A65/97, 19 May 1997.

[149] *Beadle v Ministry of Corrections* at [88].

The Court also stated that to preclude submissions and evidence on consequential effects of an activity "would be to deprive the Court of the opportunity to make a judgement based on a more complete understanding of the proposal."[150] They concluded:

> We hold that in deciding the resource consent applications we are able to have regard to the intended end-use of a corrections facility, and any consequential effects on the environment that might have, if not too uncertain or remote.[151]

Obviously there is a limit as to how far removed, uncertain, or remote the effects under consideration can be from the activity seeking consent. The Environment Court has set this limit at "direct effects of exercising the resource consent which are inevitable or reasonably foreseeable, and ... effects of other activities that would inevitably follow from the granting of consent."[152] In *Aquamarine v Southland Regional Council* the Court held that "giving a sufficiently wide interpretation to s104(1)(a)" to consider reasonably foreseeable effects was necessary to achieve the purpose of the RMA, and that "to exclude such effects on the grounds that a resource consent is not required or that they cannot be controlled by conditions, could lead to the granting of resource consents that, because of those effects, may not achieve the purpose of the Act."[153]

Citing these cases, Sir Geoffrey Palmer submitted to the Environment Court in *Buller Coal*:

> The discharge from the burning of the coal is an inevitable consequence of mining it. This means that, unless there is some other good reason, the effects associated with the discharge of greenhouse gases from the burning of the coal are a matter that must be considered.[154]

Judge Newhook criticised this submission on the basis that the cases referred to were made prior to the 2004 Amendment Act, and that Sir Geoffrey did not address this fact. With respect, this criticism is not convincing, as neither of the cases cited were related to climate change or energy matters, and the 2004 Amendment Act made no changes to the established test for the consideration of consequential effects.

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[150] At [90].

[151] At [88].

[152] *Cayford v Waikato Regional Council* ENC Auckland A127/98, 23 October 1998 at 10.

[153] *Aquamarine Ltd v Southland Regional Council* (1996) 2 ELRNZ 361 (ENC) at 366.

[154] Sir Geoffrey Palmer "Submissions on behalf of West Coast ENT Incorporated" (27 March 2012), ENV-2012-AKL- 000045– ENV-2012-AKL- 000045, page 9.

The test for consequential effects was not considered in the High Court *Buller Coal* decision. However, the consideration of the end use of coal as part of the section 104(1)(a) analysis was argued against by counsel for Solid Energy. They claimed that "anomalies... would arise by conflating the activity for which consent is sought with end use activities." As an example, they cited "an application for a hydro scheme that proposes to supply renewable energy to an activity that discharges greenhouse gases may be assessed for the effects of those discharges, while the end user is immune from such assessment."[155] This situation is not analogous with considering the end-use of coal for several reasons.

First, the generation of hydro power in itself is not damaging to the climate, whereas the generation of power from coal combustion is. Further, emissions from an electricity-consuming activity are further removed from the land use activity in terms of "limits of nexus and remoteness"[156] than those created from burning coal.[157]

Second, hydro power will be used by New Zealand electricity consumers, who are subject to New Zealand regulation, namely, the ETS. However, on the facts of *Buller Coal*, the coal is to be sent overseas and potentially not subject to any climate change regulation. Industrial-scale GHG discharges require consent under the RMA,[158] so the supply of the hydro-electricity would not guarantee emissions unless a consent was granted. To the contrary, GHG emissions are an inevitable effect of granting consent for a coal mine.

In contrast to the New Zealand Courts, the NSW Environment and Land Court has held that the consequential climate change effects of the use of coal from proposed coal mines should be taken into account in the environmental assessment of the mine.[159] Justice Pain found that there is a "sufficiently proximate link" between coal mining and GHG emissions which contribute to climate change, recognising the current impacts climate change is having on

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[155] *Royal Forest and Bird Protection Society of New Zealand Inc v Buller Coal Ltd,* above n 1, at [11]. Counsel cited this situation as an "anomaly", however the end-use of energy from a hydro-electricity plant was held to be a relevant consideration i*n Gilmore v National Water and Soil Conservation Authority and Minister of Energy* (1982) 8 NZTPA 298, where the proposed end-use of the power from the hydro dam was for a proposed aluminium smelter. The High Court held that it was for the Planning Tribunal to decide whether in the particular case the end-use of the power was relevant, and what weight to give to it.

[156] *Beadle v Minister of Corrections,* above n 149, at [88].

[157] In the case of emissions discharges from an activity powered by a hydro station, the chain of causation would be: land use consent for hydro-station. electricity from hydro-power is created, electricity is used to power an industry creating emissions. In the case of emissions from coal, the chain of causation would be: land use consent for coal mine, coal is burnt. Note the extra step of causation in the hydro electricity example.

[158] RMA, s 15.

[159] *Gray v Minister for Planning* [2006] NSWLEC 720, at 100.

Australia, and potential future impacts.[160] She rejected the argument that because the use of the coal as fuel occurred only through voluntary, independent human action, the link from the mining of the coal to impacts arising from this activity is broken.[161] Coal from the large proposed mine would be used solely for providing fuel for power stations, both in Australia and abroad.

VI. THE "ENVIRONMENT" AND JURISDICTION OVER EXTRA-TERRESTRIAL EFFECTS

The definition of "environment" in the RMA is another important consideration affecting whether emissions from coal mines can be considered under s104(1)(a), given that a lot of coal mined in New Zealand is exported. This leads to the question of whether New Zealand Courts have the jurisdiction to consider overseas effects, originally caused by activities in New Zealand. In *Buller Coal,* Whata J rejected the proposition that downstream emissions from coal combusted overseas should be considered under s104(1)(a). His honour was of the opinion that overseas discharges and their effects are not subject to the jurisdiction of a local authority, and that it is impractical and difficult to apply sustainable management principles to overseas jurisdictions.[162]

This approach, however, may leave a gap where "unless regulated at the point of extraction... [the emissions] will not be subject to assessment under the rubric of sustainable management."[163] This is because coal mining participants are not required to surrender units for carbon dioxide emissions from burning of exported coal, even though the coal mined will inevitably result in subsequent discharge of carbon dioxide from the combustion of coal.[164] On the facts of *Buller Coal,* 100% of the coal from the mines in question is planned to be sent overseas, mostly to jurisdictions which do not have any obligations to reduce their GHG emissions.[165] The outcome of this approach is not favourable in terms of sustainable management, and many adverse effects on the environment will go unaccounted for.

Justice Whata erred in holding that only effects directly arising in New Zealand can be considered under the RMA. It is important to note that in terms of the effects of climate

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[160] At [100].

[161] At [97].

[162] *Royal Forest and Bird Protection Society of New Zealand Inc v Buller Coal Ltd,* above n 1, at [52]-[55].

[163] At [51].

[164] At [51].

[165] At [6]. India, China, Japan, Brazil and South Africa.

change, the location of emissions is immaterial. Every discharge of GHG emissions will have an effect on climate change, which will in turn affect New Zealand's environment.

The definition of "environment" in section 2 of the RMA is not limited to the environment of New Zealand.[166] The definition is broad enough to encompass the global environment, as confirmed by the Environment Court in *Environmental Defence Society v Auckland Regional Council*.[167] In *Meridian Energy Ltd v Wellington City Council,* the Court considered that under s 104(1)(a) two environments are under consideration: "the first is the locality and surrounding of the site which could be adversely affected … The second is the more abstract concept of the global or at least regional environment which might be positively affected by the substitution of renewable energy for fossil fuels in the generation of electricity."[168] The Environment Court also highlighted the relevance of considering the global environment in terms of climate change effects.[169]

There are other indications that powers under the RMA extend to considering effects outside of New Zealand. The "call in" provisions allow for the Minister of the Environment to call in matters of widespread concern, including effects of a proposal on the global environment.[170] The Select Committee, when reporting on the 2004 Amendment Act, recommended removal of the reference to "in New Zealand" in a proposed clause dealing with the ambit of environmental effects assessment under the proposed ss104E and 70A, commenting:

> Since the Resource Management Act limits councils' geographic jurisdiction only in respect of their regulatory powers, not in terms of what environmental effect should be taken into account in their decision-making, we consider that the words "in New Zealand" are unnecessary.[171]

When considering the issue of jurisdiction, Whata J looked at section 15 which controls discharges of contaminants into the environment. He considered that as section 15 cannot

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[166] Section 2 RMA: environment includes—
(a) ecosystems and their constituent parts, including people and communities; and
(b) all natural and physical resources; and
(c) amenity values; and
(d) the social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs (a) to (c) or which are affected by those matters.

[167] *Environmental Defence Society v Auckland Regional Council* [2002] NZRMA 492 at [62]-[63].

[168] *Meridian Energy Ltd v Wellington City Council* ENC Wellington W031/07, 14 May 2007 at [24].

[169] At [24].

[170] Resource Management Act 1991, s142(3)(a)(i).

[171] Resource Management (Energy and Climate Change) Amendment Bill 2003 Select Committee Report, as reported from the Local Government and Environment.

apply outside of New Zealand's territorial boundary, there is no remit to require consent for overseas discharges.[172] It is true that New Zealand cannot directly regulate the activities which take place overseas. However, decision makers can still consider the potential global effects of activities undertaken here in New Zealand.

Whata J also stated:

> There is no primary jurisdiction to regulate activities extra-territorially... so there can be no collateral jurisdiction to do so. Any endeavour to regulate those activities by the side route of s 104(1)(a) could not have been within the contemplation of the legislators and, in my view, must be impermissible. [173]

In this statement, Whata J strays from the essence of the RMA as an effects-based statute. There may not be jurisdiction to regulate activities extra-territorially, but there is no prohibition on considering such effects. The ability for local authorities to consider "actual and potential effects" under s104(1)(a) confers a wide discretion, including taking into account discharges of GHGs in situations not prohibited under the 2004 Amendment Act, namely, under applications for land use consents.

Another reservation Whata J had about a wider consideration of effects was the fact that:

> In order to form an accurate view as to whether the overseas discharges are adverse and contrary to the sustainable management purpose, an authority would need to assess the management of those effects in those overseas jurisdictions.... the prospect of a district council assessing whether an end use of coal (or other greenhouse gas emitting resources) is subject to sustainable environmental policy, regulatory control, mitigation or compensation in Cambodia or a province in China, in Japan or Brazil, Zimbabwe or Kenya, or other foreign jurisdictions is palpably unattractive.

It would not be necessary to go into this type of analysis of the "sustainable management" policies of overseas jurisdictions. The bottom line is that fossil fuel extraction, given the urgency of climate change, is unsustainable in itself in terms of effects on climate change. A net-zero carbon outcome from coal extraction and combustion is unlikely, as most of the countries to which New Zealand exports coal have no obligations in terms of GHG emission reductions, or comprehensive policies in place to reduce emissions. Even if there is a chance that the GHGs from the coal will be offset in some places, s104(1)(a) requires the

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[172] *Royal Forest and Bird Protection Society of New Zealand Inc v Buller Coal Ltd*, above n 1, at [52].

[173] At [52].

consideration of actual and "potential" effects, and given that all coal has the "potential" to affect climate change, some uncertainty as to mitigation policies in various jurisdictions is acceptable.[174] Therefore, this consideration would still apply if coal is being exported to Annex I countries or other countries with climate change mitigation policies in place.

In Australia, overseas emissions were considered in *Gray v Minister of Planning*. Justice Pain found that that the Director General[175] must consider indirect GHG emissions – both domestic and overseas – from the mine in question in their assessment of the mine's proposal. Pain J said:

> It is not appropriate to limit the scope of the environmental assessment on the basis that GHG emissions may or may not be subject to regulation in the future whether in NSW or overseas. The fact that it is difficult to quantify an impact with precision does not mean it should not be done.[176]

Justice Whata noted that the interpretation he took on the issue of jurisdiction regarding effects might be said to be out of line with purpose of sustainable management, and that sustainable management would presumptively favour assessment of future effects of climate change on land use under s 104(1)(a).[177] His honour was correct on this point. The definition of both "effects" and "environment" are broad, as is the scope of the RMA, and broad enough to consider overseas consequential effects if they will affect New Zealand. When New Zealand activities lead to activities overseas which cause adverse effects to the New Zealand environment, the RMA allows their consideration under s104(1)(a).

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[174] Regardless of whether climate change mitigation policies are being used, there is inherent uncertainty in how successful such policies will be. For example, forest plantations which sequester carbon dioxide may only remove CO^2 in the short-term, releasing the CO^2 back into the atmosphere through burning or rotting when the trees die. In terms of carbon capture and storage, there is a danger of the CO^2 leaking from the storage areas. These risks would not be taken into account if climate change effects of coal mining were excluded from consideration under s104(1)(a).

[175] The Director General of Infrastructure, Planning and Natural Resources was responsible under section 75F (now repealed) of the Environmental Planning and Assessment Act 1979 (NSW) for preparing environmental assessment reports for the Minister for Planning when an application is made to the Minister for a project.

[176] *Gray v Minister of Planning,* above n 118, at [138].

[177] *Royal Forest and Bird Protection Society of New Zealand Inc v Buller Coal Ltd,* above n 1, at [51] and [53].

VII. THE RESOURCE MANAGEMENT (ENERGY AND CLIMATE CHANGE) AMENDMENT ACT 2004

One of Whata J's key arguments against the consideration of GHG effects under s104(1)(a) was that "the express purpose of the Amendment Act 2004 was to require local authorities to plan for the effects of climate change, but not to consider the effects on climate change of discharges into air of greenhouse gases."[178] The result of this, his honour argued, is that "regional councils are now prohibited from considering such effects at the formative rule making stage as well as at the evaluative resource consenting stage."[179] Justice Whata notes that "while s104(1)(a) is not literally subject to the amending enactment, it is subject to the scheme of the RMA as amended" and in light of this, the Court must be "slow to imply" jurisdiction to consider the effects of air discharges under s 104(1)(a).[180]

Justice Whata's finding on this point can be critiqued on two points. First, in stating that the "scheme of the act" is to not consider climate change effects, he ignores the main purpose of the RMA which is sustainable management. Section 104(1)(a) of the RMA is explicitly subject to Part II of the Act, but not to the amending enactment. As opposed to being "slow to imply" jurisdiction to consider climate change effects under s104(1)(a), the Court should be slow to imply exclusion of very significant environmental effects from consideration, if not specifically excluded by the statute. Acting in accordance with sustainable management must take precedence.

Second, the interaction between the Amendment Act and the RMA is more complicated than Whata J interprets it to be. On its face, the purpose of the amendment – to require local authorities not to consider the effects on climate change of discharges into air of GHGs – seems relatively clear cut, and exclusionary of any consideration of GHG emissions (except for in relation to renewable energy projects). However, the explicit provisions of the 2004 Amendment Act have a narrow focus. In particular, s70A and s104E are exclusively concerned with rules in a regional plan that "control the discharge into air of greenhouse gases" and applications "for a discharge permit or coastal permit... relating to the discharge into air of greenhouse gases." No provision explicitly prohibits local authorities from considering GHG emissions in the context of land use consents, subdivision consents or water permits.

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[178] *Royal Forest and Bird Protection Society of New Zealand Inc v Buller Coal Ltd*, above n 1, at [40]; Resource Management (Energy and Climate Change) Amendment Act 2004, s 3.

[179] At [40].

[180] At [41].

The disconnect between the purpose of the Amendment Act and the specific provisions inserted into the body of the RMA creates an ambiguity in the text. A question arises: does the Amendment Act aim to take power away from local authorities to consider the effects of activities on climate change completely, or only the effects of those activities specified in the sections inserted into the RMA? The starting point for interpreting New Zealand legislation is section 5 of the Interpretation Act 1999, which states:

> The meaning of an enactment must be ascertained from its text and in the light of its purpose.

This rule is not particularly helpful in resolving the current ambiguity, where the text and the purpose are not entirely consistent with each other. The scope of the purpose is not clear in light of the specificity of the text. Professor Burrows explains the interpretation problem faced here as such:

> The desire to harmonise all parts of a statutory text may lead one to question whether a provision should be given what at first seems its obvious meaning. Likewise, it may be argued that the ordinary meaning of a provision does not give proper effect to the wider purpose of the legislation. Considerations of scheme and purpose are powerful arguments in the hands of those challenging a more "literal" interpretation.[181]

In order to ascertain its meaning, the purpose of the 2004 Amendment Act must be interpreted in the context of the wider scheme and purpose of the RMA. Section 23 of the Interpretation Act provides that "an amending enactment is part of the enactment that it amends", which means that the purpose of the 2004 Amendment Act is to be read alongside the wider purpose of the RMA.

The Supreme Court provided some guidance on interpretation of purpose in *Commerce Commission v Fonterra*.[182] The Court confirmed that the meaning of provisions should be cross-checked against the purpose in order to observe the dual requirements of section 5 of the Interpretation Act 1999. In order to determine purpose, the Court said it is necessary to "consider both the immediate and the general legislative context, including legislative history, and it may be relevant to consider the social, commercial or other objective of the statute".[183]

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[181] JF Burrows and RI Carter *Statute Law in New Zealand* (4th ed, LexisNexis, Wellington, 2009) at 181-182.

[182] *Commerce Commission v Fonterra* [2007] NZSC 36; [2007] 3 NZLR 767.

[183] At [22].

The Court of Appeal in *Northern Milk Ltd v Northland Milk Vendors Association Inc and Grant* considered the issue of the filling a gap in a statutory framework.[184] Here, the gap is in making specific provision to consider the climate change effects of New Zealand activities which lead to GHG emissions overseas. In this case, Cooke P spoke of cases where "in the preparation of new legislation making sweeping changes in a particular field, a very real problem has certainly not been expressly provided for."[185] Accordingly, the responsibility falls on the Courts "to work out a practical interpretation appearing to accord best with the general intention of Parliament as embodied in the Act - that is to say, the spirit of the Act."[186] In doing this, "a great deal turns on the need for the Courts to appreciate and give weight to the underlying ideas and scheme of the Act."[187]

Given that the overall objective of the RMA is to ensure that all resource use is conducted in accordance with sustainable management, there is a case for challenging an absolute interpretation of the Amendment Act's purpose "to [not] consider the effects on climate change of discharges into air of greenhouse gases." It is entirely consistent with sustainable management to consider GHG emissions which are not being considered under any other framework. Ignoring future emissions which will arise from an activity seeking consent under the RMA is to disregard the negative externality, which in turn, warps a balanced consideration of sustainable management.[188]

It is important to look closely at the specific text inserted into the RMA by the 2004 Amendment, but even more important to look at what was not included. Significantly, land use consents are not included in the category of consents in s104E under which climate change effects cannot be considered. It can be inferred from this exclusion that Parliament recognised there are some activities which cause adverse GHG effects but will not come under the national framework, and should still be considered under the s104(1)(a) analysis.

In light of the policy behind the Amendment Act, namely that climate change regulation for some activities should be conducted at a national level, and the specificity of the provisions, it can be argued that the Amendment Act was targeted at direct GHG emissions that were

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[184] *Northern Milk Ltd v Northland Milk Vendors Association Inc and Grant* [1988] 1 NZLR 530 (CA).

[185] At 537.

[186] At 537.

[187] At 537-538.

[188] *Winstone Aggregates v Papakura District Council* ENC Auckland 49/2002, 26 February 2002 at [46]; *P H van den Brink (Karaka) Ltd v Franklin District Council* [1999] NZRMA 552 (ENC); see also *Catchpole v Rangitikei District Council* ENC Wellington 35/2003, 23 May 2003.

anticipated as being regulated under this framework, and not indirect emissions from land use activities.

VIII. CONSISTENCY WITH INTERNATIONAL OBLIGATIONS

New Zealand's consideration of climate change effects under the RMA should be guided by the government's international obligations. To remove climate change effects as a consideration when assessing a proposal for a new coal mine would be contrary to the tenor of the UNFCCC and Kyoto Protocol and the commitment to "protect the climate system for the benefit of present and future generations of humankind",[189] "take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects",[190] "promote sustainable development"[191] and "take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions".[192]

Although these obligations contained in the UNFCCC are relatively nonspecific, they represent a commitment to taking action to avoid dangerous climate change. Given that the New Zealand government has ratified the UNFCCC and the Kyoto Protocol, and incorporated them into domestic law,[193] where there is an ambiguity, other legislation should be read in light of these obligations and interpreted consistently. New Zealand Courts have been willing to give weight to international obligations and the "spirit" of these obligations as a relevant consideration in exercising a statutory discretion, regardless of their status in domestic law.[194] In relation to both the Courts and the executive acting in line with international commitments, Cooke P said in *Tavita v Minister of Immigration*:

> A failure to give practical effect to international instruments to which New Zealand is a party may attract criticism. Legitimate criticism could extend to the New Zealand Courts if they were

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[189] UNFCCC, above n 40, art 3(1).

[190] UNFCCC, art 3(3).

[191] UNFCCC, art 3(4).

[192] UNFCCC, art (4)(1)(f).

[193] Climate Change Response Act 2002; Resource Management (Energy and Climate Change) Amendment Act 2004; Climate Change Response (Emissions Trading) Amendment Act 2008; Climate Change Response (Emissions Trading Forestry Sector) Amendment Act 2009; Climate Change Response (Moderated Emissions Trading) Amendment Act 2009. See *Outstanding Landscape Protection Society Inc v Hastings District Council* [2008] NZRMA 8 at [99].

[194] *van Gorkom v Attorney-General* [1977] 1 NZLR 535 (NZSC); *Federated Farmers of New Zealand (Inc) v New Zealand Post* [1990-92] 3 NZBORR 339 (HC) at 387. In *Kaimanawa Wild Horse Preservation Society Incorporated v Attorney General* [1997] NZRMA 356 (ENC) at 370 the Environment Court did not give weight to international law on the facts, but stated that "an international instrument might assist a Court in interpreting an ambiguous statutory provision."

> to accept the argument that, because a domestic statute giving discretionary powers in general terms does not mention international human rights, norms or obligations, the Executive is necessarily free to ignore them.[195]

This proposition can be applied to the RMA and the consideration of climate change under 104(1)(a). Given that consideration of climate change under s104(1)(a) is not prohibited when assessing land use consent applications, consent authorities are not free to ignore the effects the proposed activity will have on climate change, as this would be contrary to the spirit and letter of the UNFCCC and the Kyoto Protocol. In *Environmental Defence Society v Auckland Regional Council* the Environment Court held, despite the fact that the UNFCCC had at that point not been specifically enacted into domestic law and New Zealand had not ratified the Kyoto Protocol, that both instruments were relevant considerations under s104(1)(i) (now s104 (1)(c)).[196]

To conclude, there is a very good case for considering the climate change effects of GHG emissions from a coal mine when assessing a land use application under s104(1)(a) of the RMA. It is essential to sustainable management, especially the protection of resources for future generations, that the effects of climate change are considered where allowed by the Act. While the consideration of climate change effects was excluded in some circumstances by the 2004 amendment to the RMA, it is not prohibited when considering land use consents, subdivision consents and water permits. Climate change is a consequential and cumulative effect of allowing the activity of coal mining, both of which can be considered under s104(1) (a). As the scope of the environment extends to the global environment, the consequential effects of coal mining both occurring in New Zealand and overseas are able to be considered, especially since the location of the GHG emissions is immaterial to their contribution to climate change. It is also consistent with New Zealand's international obligations under the UNFCCC and Kyoto Protocol to take climate change into account when planning new fossil fuel development. From a climate change avoidance policy perspective, it is better to preemptively consider climate change effects before resource consents are granted rather than regulating the effects once they are already occurring. Since the RMA allows for this in the case of land use consents, consent authorities should be allowed to exercise such a consideration under section 104(1)(a).

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[195] *Tavita v Minister of Immigration* [1994] 2 NZLR 257 (CA) at 266.

[196] *Environmental Defence Society v Auckland Regional Council,* above n 82, at [28].

CHAPTER FOUR

Regulation of Climate Change Effects Through the RMA

Taking the effects of GHGs into account when considering a resource consent application will not single-handedly deal with the climate change effects from activities seeking consent. This chapter discusses the limitations of regulating climate change effects through section 104(1)(a), and examines other options for controlling such effects under the RMA. In particular, it will look at the possibility of attaching conditions to resource consents to address GHG emissions, and how this would fit within New Zealand's climate change regulation framework. Lastly, this chapter will consider further actions which could be taken to deal with climate change effects, namely, implementing national environmental standards to guide local government consideration of GHGs in certain circumstances.

If consent authorities do take effects on climate change into account when considering an application for a land use resource consent under section 104(1)(a), they will only be one consideration to have regard to among various positive and adverse effects. While the consent authority "must" have regard to all actual and potential effects of an activity, it has the discretion to give effects the weight they consider appropriate in the circumstances.[197] There is no primacy afforded to certain matters under s104(1)(a), other than the fact that discretion must exercised subject to Part II of the Act. Therefore, the adverse effects of a proposal for land use may outweigh the positive effects, or else the proposal may be granted consent despite the anticipated adverse effects. In such a case, while effects on climate change have been "considered", they have not been avoided, remedied or mitigated, leaving consideration of the climate change effects not much more than a token gesture.

I. CONDITIONS ON RESOURCE CONSENTS

If a land use consent is granted for a GHG emitting activity, meaning that climate change effects cannot be completely avoided, the effects can still be addressed in the form of conditions. Section 108 of the RMA grants consent authorities wide discretion to impose conditions, stating that "except as expressly provided in this section and subject to any regulations, a resource consent may be granted on any condition that the consent authority considers appropriate." Therefore, consent authorities have the ability to impose conditions to

[197] *Kennett v Dunedin City Council* (1992) 2 NZRMA 22 (PT); *R v C D* [1976] 1 NZLR 436 (NZSC).

address the climate change effects of an activity. The same reasoning for the consideration of climate change effects under the RMA applies to the regulation of such effects under the RMA. Conditions to address climate change effect are consistent with the scheme of the RMA and necessary for achieving sustainable management. Conditions to address climate change effects could include a requirement to plant carbon sinks, implement carbon capture and storage technology, provide a financial contribution to a project such as renewable energy which is reducing fossil fuel use,[198] or offer other types of "environmental compensation."[199]

II. REGULATION UNDER BOTH THE RMA AND THE ETS

There is a concern that regulating GHG emissions under both the ETS and the RMA would lead to "double-counting", wherein emitters are made to pay disproportionate amounts of money for their emissions. There would be little concern of double-counting in regard to conditions on a coal mine which exports to developing countries with no climate change mitigation policies in place. The concern becomes more acute when considering coal mined and consumed in New Zealand which is also regulated under the ETS, and coal exported to Annex I countries which have GHG mitigation policies in place. However, it is important to look at the issue of so-called "double-counting" in the context of the rationale behind regulation under the RMA and the ETS.

The purpose behind the ETS is to create an economic incentive to reduce GHG emissions. The ETS is not an offsetting device, and does not necessarily guarantee a decrease in GHG emissions, given that there is no cap on emissions under the ETS.[200] A business may choose to pass on the cost incurred under the ETS for their GHG emissions to customers rather than making an effort to reduce them. In contrast, the purpose of a condition imposed under the RMA would be to directly offset or reduce the effects of GHGs, either in part or fully. To rely

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[198] Perhaps akin to the Kyoto Protocol's Clean Development Mechanism, where emitters are able to contribute financially to emissions-reducing projects in other countries in order to earn Certified Emissions Reduction Credits which may be traded in Emissions Trading schemes. Note that a financial contribution may be in the form of money, land or both (s108(9)). A condition requiring a financial contribution must not be imposed unless –
a) the condition is imposed in accordance with the purposes specified in the plan or proposed plan (including the purpose of ensuring positive effects on the environment to offset any adverse effect); and
(b) the level of contribution is determined in the manner described in the plan or proposed plan.

[199] See *JF Investments Ltd v Queenstown Lakes District Council* ENC Christchurch C48/06, 27 April 2006 where the Environment Court defined environmental compensation as "any action (work, services or restrictive covenants) to avoid, remedy or mitigate adverse effects of activities on the relevant area, landscape or environment as compensation for unavoided and unmitigated adverse effects of the activity for which consent is being sought."

[200] While emitters may purchase NZUs from participants who are reducing emissions, most credits are bought from the government and do not result in emissions reductions elsewhere.

on the ETS alone to reduce GHG emissions would be inconsistent with sustainable management, which allows consent authorities to impose conditions to achieve this purpose. In light of the different outcomes of the regulation of climate change effects under both the ETS and the RMA, the two would be complementary means of working towards the same goal – a reduction in New Zealand's GHGs. It is arguable that the concern of double-counting does not apply because emitters would not be charged for "the same thing", given the different purposes of the schemes.

In *Hunter Environment Lobby Inc v Minister for Planning & Anor* Pain J imposed a condition on an approval for a coal mine, to offset direct GHG emissions from the mine in New South Wales.[201] However, this was before the implementation of Australia's climate change legislation, which implemented a "carbon pricing" scheme.[202] One of the conditions accepted by the Court allowed for the adoption of the forthcoming Australian carbon pricing scheme once available, to replace the offsetting scheme required under the conditions of the approval.[203] This suggests that the Court in *Hunter* saw regulation under both offset conditions and a carbon pricing mechanism as inappropriate.[204]

Furthermore, despite the theoretical difference between regulation under the RMA and the ETS, it is expected that emitters would not see it as legitimate to be charged twice, under different regulatory schemes, for their emissions.[205] It is, however, attractive to suggest that both mechanisms are used, especially given that a condition under the RMA is likely to be far more effective at reducing, offsetting or sequestering emissions than the ETS. While inconsistencies may arise in certain circumstances if both the RMA and the ETS are used to regulate the same climate change effects, the two are not fundamentally incompatible with each

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[201] *Hunter Environment Lobby Inc v Minister for Planning & Anor* [2011] NSWLEC 221.

[202] Clean Energy Act 2011.

[203] The condition authorised the Director-General of the Department of Planning to waive compliance with the requirement to report on and offset GHG emissions if he/she is satisfied that a "regulatory liability has been imposed under another law (of any jurisdiction) in relation to the relevant emissions".

[204] The Court of Appeal in *Greenpeace* at [40] spoke of the policy of the 2004 Amendment Act and how considering the climate change effects of non-renewable energy under both s104(1)(a) and the national framework would result in "the sort of duplication of effort between national and regional government which the legislature has sought to eliminate." In order to impose conditions on consents for activities which are also regulated under the ETS, it would be necessary to argue against the purpose of the 2004 Amendment Act of removing the ability of local authorities to regulate climate change effects.

[205] Emitters would not be charged more than once for their emissions in all circumstances, however. For example, if an emitter was reducing emissions through a condition, they would not be charged for those emissions under the RMA. Likewise, if a consent holder established a carbon sink forest for the purpose of offsetting emissions (which qualified to Kyoto standards) it would come within Schedule 4 of the ETS and they would be entitled to carbon credits, neutralising any payments they would be liable for under the ETS.

other. For this reason, it is suggested that further research and analysis is needed to determine how the ETS and RMA can be used in complementary ways to to effectively regulate the climate change effects of New Zealand activities.

It is important to note that uncertainties as to the appropriateness of conditions do not arise in the context of New Zealand coal which is exported to non-Annex I countries, as the risk of double-counting emissions is not a concern.

III. VALIDITY OF CONDITIONS

Despite the wide discretion granted by section 108, options for conditions attached to resource consents are not completely unlimited. To be valid, a condition must meet the test set out by the House of Lords in *Newbury DC v Sec of State for Environment*.[206] A condition must be:

a) Reasonable;[207]
b) Be for a resource management purpose, not for an ulterior motive; and
c) Relevant to the proposal authorised by the consent.

The test for the relevance of a condition was considered further by the Supreme Court in *Waitakere City Council v Estate Homes Ltd*.[208] The Court found that rather than necessitating a direct causal link, the test is whether the condition is "logically connected" to the development.[209] It would not be difficult to argue that any conditions to offset climate change effects, attached to a land use consent such as a coal mine, were logically connected to the proposal, as granting consent for a coal mine will lead to the mining of coal, which will most logically lead to one thing, the burning of the coal and the creation of GHG emissions.

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[206] *Newbury DC v Sec of State for Environment* [1981] AC 78. The *Newbury* test has been imported into New Zealand law, see *Coote v Marlborough DC* W096/94 (PT) and *Cookie Munchers Charitable Trust v Christchurch City Council* ENC Wellington 090/08, 22 December 2008.

[207] The standard for "reasonableness" is measured against the standard of *Wednesbury* unreasonableness, i.e the condition should not be so unreasonable that a reasonable planning authority could not have approved it.

[208] *Waitakere City Council v Estate Homes Ltd* [2006] NZSC 112; [2007] 2 NZLR 149.

[209] At [66].

IV. PREVIOUS CONSIDERATION OF CLIMATE CHANGE CONDITIONS IN NEW ZEALAND

New Zealand Courts have, in the past, been reluctant to impose conditions which relate to climate change effects.[210] In *Environmental Defence Society v Auckland Regional Council* the Court questioned the consistency of the national policy of considering GHG emissions at a national level and specific conditions on resource consents.[211]

However, this case was before the Court in 2002, prior to the implementation of national policies to address GHG emissions,[212] and related to placing conditions on an electricity generator, which would today be regulated under the ETS. Therefore, it is important to look at this decision in light of the policy framework at the time. Currently, climate change effects from exporting coal mines are not addressed at all at a national level, despite the national implementation of a regulatory framework. In light of this oversight, imposing GHG mitigating conditions on consents for mines would not be inconsistent with the national framework, but would sit alongside it.

In *Environmental Defence Society v Auckland Regional Council* the Court was also concerned about the "efficacy, appropriateness and reasonableness" of the condition due to the "doubtful efficacy of such a condition in the global context" and their "inability on the evidence to assess adequately the national, international, social and economic consequences of such a condition."[213] However, these concerns are no longer applicable to climate change conditions. First, it has already been shown that the *de minimis* argument is not legitimate in the context of climate change effects.[214] In regard to the Court's second misgiving, it is important to note that there have been scientific and practical advancements in climate change science and mitigation techniques over the past 10 years since this judgment was released. Emissions and emissions reductions have been accurately measured for the purposes of the ETS, so there is no reason to doubt their measurement in relation to conditions on a resource consent. Judge Newhook has noted that the "freeze-framing as at the date of a judgment", especially in climate change cases, is the source of a "considerable tension between scientific and legal

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[210] *Environmental Defence Society v Auckland Regional Council* above n 82, *Taranaki Energy Watch Incorporated v Taranaki Regional Council and Stratford Power Limited* above n 82.

[211] *Environmental Defence Society v Auckland Regional Council* above n 82 at [88]. The same concerns and reasoning were voiced by the Court in *Taranaki Energy Watch v Taranaki Regional Council and Stratford Power Limited*.

[212] The Climate Change Response Act 2002 was enacted nearly 6 months after this decision came out.

[213] *Environmental Defence Society v Auckland Regional Council,* above n 82, at [88].

[214] See discussion of the *de minimis* principle, page 34-35, above.

methods."[215] Therefore, it is important to consider past judgments in light of the scientific knowledge at the time, and the evidence that was before the Court.

V. OUTCOMES OF ATTACHING CLIMATE CHANGE EFFECT CONDITIONS TO RESOURCE CONSENTS

The attachment of conditions to consents may be the only way that the climate change effects of a particular land use are mitigated. This is especially the case with coal mines which solely export their coal to developing countries with no policies in place for mitigating GHG emissions. The purpose of conditions is to avoid, remedy and mitigate adverse effects, which is in essence, internalising the effects so that the cost falls on the producer, rather than on society. Internalisation of effects has been discussed in several cases under the RMA, but mostly in relation to odour and noise.[216] The internalisation of effects is just as important in the case of GHG emissions, and is consistent with the international environmental law principle of "polluter pays".[217] Conditions on a resource consent for a coal mine will ensure that the cost of the climate change effects will be borne by those responsible for the GHG emissions, rather than by society and the environment.

The lack of a requirement under New Zealand law to internalise the climate change effects caused by export-bound coal creates an incentive to export the coal, and thus avoid responsibility for the emissions. This causes "carbon leakage", as discussed in chapter one, an upshot of the "common but differentiated" responsibilities" of developed and developing nations under the UNFCCC and KP.[218] As a large amount of New Zealand coal is exported to developing countries with no emissions reductions obligations,[219] if not considered at their origin, there is an overwhelming risk that the GHG effects will not be considered at all. Conditions will equalise responsibility for climate change effects of coal mined in New Zealand, whether imported or exported, and reduce the perverse incentive for mining companies to export coal rather than consume it domestically.

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[215] Judge Laurie Newhook "Climate Change and the RMA" (Conference Paper, 26 September 2008) at 1.

[216] *Winstone Aggregates v Papakura District Council* ,*P H van den Brink (Karaka) Ltd v Franklin District Council,* above n 188.

[217] *Trail Smelter Arbitration* (*United States v Canada*) (1938 & 1941) 3 RIAA at 1905.

[218] See discussion of carbon leakage, page 11-12, above.

[219] Energy Information and Modelling Group *New Zealand Energy Data File (*prepared for the Ministry of Economic Development 2012) at 36.

The Court in *Environmental Defence Society v Auckland Regional Council* noted that there may be potential difficulties with monitoring a proposed carbon sink condition where the trees planted were outside the Auckland region. The Court said:

> Even if the Regional Council has jurisdiction to impose such a condition, we doubt that it can legally monitor and enforce such a condition. Quite apart from the legal position, if such a condition were imposed, the Regional Council would, be confronted with considerable practicable [sic] difficulties in monitoring and enforcing it.[220]

When a local authority imposes conditions, it assumes responsibility for ensuring that they are adhered to.[221] However, the Court in *Environmental Defence Society v Auckland Regional Council* must have assumed that all monitoring and enforcement requires site visits by representatives of the local authority. This is not the case, as requirements of conditions would not have to be monitored onsite by the authority, but could be sufficiently monitored via reporting to the authority. The council could make it a requirement of a consent, included in the conditions, that the applicant is to fund such monitoring.

VI. NATIONAL ENVIRONMENTAL STANDARDS ON LOCAL GOVERNMENT CONSIDERATION OF CLIMATE CHANGE

Section 104F of the RMA anticipates the implementation of national standards to control the effects on climate change of the discharge into air of GHGs.[222] Both the Court of Appeal in *Greenpeace* and the High Court in *Buller Coal* mentioned the future promulgation of such national standards were mentioned.[223] Justice Whata stated:

> Significantly, the Amendment Act 2004 ... accorded primacy to national regulations by requiring regional policies on discharges to align with national environmental standards. Once those

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[220] *Environmental Defence Society v Auckland Regional Council* at [92].

[221] *Woodland Farms v Otamatea County* A065/85 (PT); *MWD v Rangiora District* A008/86 (PT).

[222] If a national environmental standard is made to control the effects on climate change of the discharge into air of greenhouse gases, a consent authority, when considering an application for a discharge permit or coastal permit to do something that would otherwise contravene section 15 or section 15B,—
(a) may grant the application, with or without conditions, or decline it, as necessary to implement the standard; but
(b) in making its determination, must be no more or less restrictive than is necessary to implement the standard.

[223] *Genesis Power Limited v Greenpeace New Zealand Incorporated* [2007] NZCA 569 at [43]; *Royal Forest and Bird Protection Society of New Zealand Inc* v *Buller Coal* above n 1 at [46].

> national environmental standards are in place, regional councils and then district councils must develop rules that are consistent with those standards.[224]

The Courts seem to be working on the assumption that national standards will be created to clear up any uncertainties caused by the non-specificity of the 2004 Amendment Act. However, there is no sign at present that any new national standards are in the process of being implemented to deal with the issue of climate change considerations under the RMA.[225] Judge Newhook is of the opinion that:

> Regional consideration of [climate change] will not come about until national environmental standards are published to guide regional rule-making and decision-making, unless there is further legislative amendment to establish a different intent by Parliament.[226]

Given the expectation from Judges and the Courts that national standards must come before local government involvement in regulating climate change effects of activity is allowed, it would be valuable to implement national standards on local government consideration and regulation of climate change effects. National environmental standards would provide guidance on how local government may deal with effects from emissions-creating activities that are not mitigated under the national framework.[227] It is suggested that the standards provide suggestions for appropriate GHG conditions under consents, guidelines for financial contribution, and that they clarify the boundaries of regulation under both the ETS and the RMA. Standards would create consistency across decision-making throughout New Zealand.

The consideration and regulation of the climate change effects of land use under the RMA as part of the s104(1)(a) application process, through conditions, and national environmental standards will pass the cost of GHG emissions back onto the producers, and reduce incentives to use fossil fuels. This is consistent with the RMA's purpose of sustainable management and provides a solution to the gap left by the rest of New Zealand's climate change regulatory framework. It is suggested that central government implement national environmental standards as soon as possible to provide local government with guidance on the substance of

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[224] In response to the concern that the Amendment Act as interpreted in that case prohibits consideration of climate change effects not specifically covered in the Amendment Act.

[225] Note that a National Policy Statement for Renewable Energy Generation was issued in April 2011.

[226] Judge Laurie Newhook "Climate Change and the RMA" (Conference Paper, 26 September 2008) at 18.

[227] National Standards are regulations issued under sections 43 and 44 of the RMA and apply nationally. They can prescribe technical standards, methods or other requirements for environmental matters.

climate change mitigation conditions imposed on resource consents and to ensure consistency between conditions imposed.

CONCLUSION

There is a strong case for considering and regulating climate change effects under the RMA. At a base level, to refuse to consider the effects of climate change, the most threatening environmental issue of our time, under the RMA, New Zealand's primary environmental management legislation, is nonsensical. To ignore environmental effects as serious as climate change in a consideration under section 104(1)(a) of whether a proposed activity will achieve "sustainable management", warps the very notion of sustainable management.

Currently, the future climate change effects of an activity are not assessed during the resource consent process. This is a fundamentally flawed approach, given that it is far better to prevent adverse effects from arising rather than attempt to mitigate them once they have occurred. If the adverse climate effects of a land use activity are considered under section 104(1)(a) of the RMA, in the balance of determining whether an activity will achieve sustainable management, the predominance of negative effects may mean that the activity is not granted consent.

Another weakness in New Zealand's climate change regulatory framework is that it does not provide for regulation of GHG emissions which do not come within the scope of the ETS. The primary example of this is GHG emissions from New Zealand coal exports. While the GHG emissions from coal exported from New Zealand will occur overseas, they are caused by the activity of coal mining, and are therefore within the scope of consideration of New Zealand authorities, as discussed in chapter three. This is where the RMA, as a mechanism to achieve sustainable management, should be used to ensure that climate change effects caused by New Zealand activities are accounted for.

The consideration of climate change effects in the an analysis of an application for land use consent is not expressly prohibited by the RMA. Therefore, the Courts and consent authorities should be slow to infer the exclusion of the consideration of climate change effects, as such a measure would distort the purpose of the RMA.

The consideration of climate change effects through the RMA should not stop at the section 104(1)(a) analysis. If a land use consent is granted for an activity causing climate change effects, meaning that the effects cannot be completely avoided, a consent authority may impose conditions to address the effects of the activity. Conditions to mitigate and remedy adverse climate change effects will assist to achieve the purpose of sustainable management. This dissertation primarily focuses on the consideration and regulation of climate change effects

from activities not managed under New Zealand's ETS. However, there is an argument that climate change effects considered under the ETS are also able to be considered under the RMA given the different regulatory purposes of the two mechanisms, and the different outcomes of the regulation. There is a need for further research, outside the scope of this dissertation, on the interaction between the RMA and the ETS and how they can be used in a complementary way to to effectively regulate the climate change effects of New Zealand activities. The implementation of national environmental standards on local government climate change regulation may provide more guidance in this area.

Avoiding dangerous climate change will require a global effort. New Zealand is part of this effort, and has international commitments to fulfil in respect of climate change agreements. The government has implemented the ETS to regulate greenhouse gas emissions in New Zealand. However, we can not rely solely on the largely ineffective ETS to reduce New Zealand's emissions.[228] Consideration and regulation of climate change under the RMA is another national policy which can make reductions in New Zealand's contribution to climate change, especially through preventing activities which have adverse climate change effects from being granted consent from the start. Until more ambitious global measures are adopted, such as James Hansen's suggestion of an global carbon tax, cited as an "across-the-board price on all fossil fuel CO2 emissions",[229] New Zealand's existing policy framework should be used to its full extent to achieve sustainable management, and to protect today's New Zealanders and future New Zealanders from the harmful effects of climate change.

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[228] As discussed in chapter two, the New Zealand ETS is a flawed mechanism for reducing GHG emissions. In fact, during the term of the ETS, emissions from some sectors have increased. See: Ministry for the Environment "New Zealand's net position under the Kyoto Protocol (August 2012) <http://www.mfe.govt.nz/issues/climate/greenhouse-gas-emissions/net-position/index.html>. Agriculture emissions increased from 33.4 million tonnes of CO^2-e to a projected 35.3 in 2012; and Industrial processes and solvent emissions increased rose from 4.3 CO^2-e in 2008 to projected 4.9 in 2012.

[229] James Hansen et. al "The Case for Young People and Nature: A Path to a Healthy, Natural, Prosperous Future", above n 13 at 22. Under Hansen's proposal for a global carbon tax, the price of carbon would gradually rise year after year, making fossil fuels expensive and creating a strong incentive for investment in low-carbon energy sources.

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